

THE
Lord Bacons
Relation of the
SWEATING - SICKNESS
Examined, in a
REPLY
TO
GEORGE THOMSON,
Pretender to
Physick and Chymistry.
Together with

A Defence of PHLEBOTOMY

In general, and also particularly
In the *PLAGUE*, *SCURVY*, and
SMALL-POX, *PLEURISIE*.

In Opposition to the same Author, and the Author of
Medea Medicina, Doctor *Whitaker*, and Doctor *Sydenham*.

ALSO
A Relation concerning the strange Symptomes happening
upon the Bite of an ADDER.

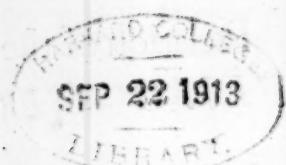
AND
A REPLY, by way of Preface to the Calumnies of
Eccelobius Glanville.

By *Henry Stubbe Physician at Warwick.*

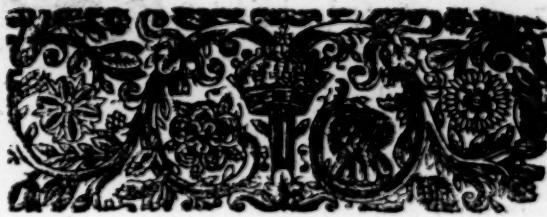
Nec temerè nec timide.

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TO THE
R E A D E R.

Reader,

YOU are to take notice that the Author whensoever he names his Adversary hath chosen rather to affix a *Black line*, than to give him the Title of *Doctor*: not out of any *contempt*, or that he would deny him what is his *due* and *right*, though by *PURCHASE*: but he could not be any way informed that he was any *Graduate*, though he write himself *M. D.* nor do any of the *Colledge* own any such thing. As for what is said, that *He purchased a DOCTORAL DIPLOMA to justify his practice Legally in any place of the world.* H. S. professeth he doth not understand whether this import any more than a *LICENCE to PRACTISE*, which loofeth much of its *validity*

To the Reader.

Validity and repute by being a CONFESSED PURCHASE: As for *DOCTORAL Diploma's*, he never heard they were *any where* to be purchased without taking of the *Degree*, and in *that manner* it may be *purchased*, it being usual at *Leyden* and *Padua* to sell *them*, with this *Elo-gy*: *Accipiamus pecuniam, & dimittamus As-i-num*. If it be *due* to *him*, the *Reader* may sup-*ply* the *blank* with what is *fitting*, and term *him* either *Mr. Thomson*, or *G. Thomson the DOCTOR BY PURCHASE*.

Yours

H. S.

TO



TO THE

Learned and Judicious President and Fellows
of the Kings Colledge of *Physicians* in
L O N D O N.

SIRS,

THAT there are certain periodical revolutions in Nature, whereby the same calamities, distractions, and diseases renew themselves, and afflict man-kind over and over again, hath been the ancient observation of prudent men. Agreeable hereunto it is, that in our Age we see the contempt of Ancient Learning revived ; and experiment a new inundation of Goths and Vandals amongst us, but not likely to be so famed as the former, for Civil prudence, and Military conduct. But as they bear a great resemblance to those Barbarians, in demolishing old Structures and Books ; so herein they out-doe Theodoric, in that they promote a Licentiousness of Experiments in Physick, which that wise Goth severely forbade, out of tender regard to the welfare of his Subjects, in the loss of whom, Princes themselves become Sufferers. When the European

Cassiodor.

Chri-

The Preface.

Christians were reduced to their greatest ignorance, and rudeness, they retained so much of sense as to apprehend this evil ; and to remedy it, and to furnish themselves with able Physicians in difficult cases (in the more facile men, are less sensible of their want) they erected Phy- fick into a Faculty, graduated the Doctors, and did subordinate the Apothecaries unto them, and left every practitioner punishable lege de fici- riis, or by some extraordinary penalty, under

To Francis
Ripa in de pe-
t. c. 7. decr. 64.
65. Peter Re-
bus digest. l. 1.
etr. 18. leg. 5.
decr. 1.

whom any patient should dye, if the traditions of our Art were not observed, but the Method, or Medicaments found unwarrantable. What Henry the eighth did in modelling your illustrious Colledge, was but an imitation of these Sage Constitutions, which (descending from the Emperour Frederick the second, in 1221.) all Europe had submitted unto : These the King professeth to take for his example, and the motive he went upon was, a regard to the benefit of his Liege- people; as our Law sheweth. The event of which determination was such as demonstrated it to be highly prudential: it gave such a lustre and encouragement to Physicians, that the profession became splendid for the number and quality of such as embraced it, and added as much to the glory of our Nation, as it brought other benefit. YOU, as well by your own merits, as the appointment of our Monarchy, are the great Tribunal

of

The Preface.

of our Faculty: upon YOUR SENTENCE, in difficult cases, we depend; To YOU, we are referred, as the supreme Judges of our Methods and Medicaments: 'Tis our Glory, 'tis our Security, to be your followers, and that which crowns all our practice is, to be at last of YOUR NUMBER. But the innovations of late years have taken off much from your renown and Authority; and though YOU have in abilities equalled or transcended your Ancestours, yet bath your Credit been extenuated and impaired: which is so much the more to be resented, in that it arose not from any evil effect of our late Civil Wars, but the insolence and extravagance of more modern attempts. Others, contrary to our Laws, have usurped YOUR OFFICE, pretending to reform the Ancient Rules, Methods, and Medicaments, and giving encouragement to all manner of Empiricks and Quackfalvers, so that the Faculty is in danger to be overthrown, and the Nation to be subjected to all those inconveniences which the defect of able Physicians, and the multiplying of cheating Mountebanks can introduce: and when some years shall have removed or extinguished the present Physicians and Chirurgeons which are eminent, scarce any County will yield one fit to be consulted with in difficult Cases. All this mischief bath its principal source, original, and strength from the

B.A.

The Epistle

BACONICAL PHILOSOPHERS, and the impudence of ----- Thomson proceeded so far as to decline Your Judicature, and appeal to theirs in matters relating to the practise and being of Physick. Though the Man be despicable, the President is not: Examples stick not where they begin; and from as trivial a rise as this, I have observed, that the priviledges of greater Courts have been infringed, and others from non-judices advance themselves to become Judges, where they ought not to interpose. This consideration, and not any value I place on my Adversary, made me employ some of that little leisure which I have, in contriving a remedy for this growing evil; and I concluded that it might adde som-thing to your grandeur; if I descanted upon the miscarriages of the Lord Chancellour Bacon, and in him shewed what incompetent Judges they are in Physick, either as to the stating of a disease, or recording its cure, who are not perfect Artists, and accomplished in our Science, whatever excellencies they have otherwise acquired, and what ingenuity soever nature may have bestowed on them: In representing of his faileurs, I thought I might deterr others from the like attempts, who are not Bacons, but Hogs, that yield much Cry, but no Wool. As for the suppressing of Mountebanks and Empiricks of lesser note, I think the most ready course would be to acquaint

the

Dedicatory.

*the Nation with the History of the Faculty
of Phyfick, the Laws made about it in sever-
al Countries, the motives inclining Princes
thereunto : the Edicts against Empericks
made by King John, and Charles the sixth in
France, and others elsewhere: as also the dismal
effects which followed all over Europe, after
that Paracelsus and his followers had decryed the
established Phyfick, and introducing new terms,
principles, methods, and medicaments, and im-
boldened every Mountebank to make trials with
his Arcana. This Course, I think, would best
undeceive the people, and make them cautious,
willing to learn by the sad examples of what
others have suffered, and to pursue those reme-
dies by which they have been relieved. And it
would incline the Parliament to paſſ those Acts
by which the Faculty may be supported, and
all the rational Physicians in England imbodi-
ed into one common interest, and mutual de-
pendance ; whereby it will be facile for us to
advance the Science to that height and use-
fulness whereunto no other contrivance can
bring it; and to secure not only our selves,
(and that Profession which is and will be an
ingenious education and ſubſtience for the
younger Gentry) but also Learning it ſelf
from apparent destruction. I ſhould expatiate
too much in this address, ſhould I propose the*

B

wayes

The Epistle Dedicatory.

wayes of advantaging Physick, and the most
feasible projects for the carrying them on: But
I beseech you to believe, I bring along with me
in this address all that respect, all those incli-
nations to serve you, which become the most affe-
ctionate of your friends, and particularly

Warwick Jan. 12.

1670.

Your most devoted servant

HENRT STUBBE.

THE



THE
LORD BACON'S RELATION
OF THE
SWEATING-SICKNESS.

About this time in *Autumn*, towards the end ^{Hist. Hen. 7.}
“of *September*, there began and reigned in ^{p. 9. take no-}
“the *City*, and other parts of the *Kingdome*, ^{notice that this}
“a *Disease* then *new*: which, of the Acci- ^{Book hath no}
“dents, and manner thereof, they called the *Sweating-*
“*Sickness*. This disease had a swift course, both in the
“*sick body*, and in the *time* and period of the lasting there-
“of: for they that were taken with it, upon four and
“twenty hours escaping, were thought almost assured.
“And, as to the *time* of the malice and reign of the *Dis-*
“*ease*, e're it ceased; it began about the one and twentieth
“of *September*, and cleared up before the end of *October*,
“insomuch that it was no hindrance to the Kings *Coro-*
“*nation*, which was the last of *October*: nor (which was
“more) to the holding of the *Parliament*, which began
“but seven dayes after. It was a *Pestilent Feaver*, but
“(as it seemeth) not seated in the *veins* or *humours*,
“for that there followed no *Carbuncle*, no *purple* or *livid*
“*spots*; or the like, the *Mas* of the *body* not being taint-

"ed: only a *malign vapour* flew to the *Heart*, and seized
 "the *vital spirits*; which stirred nature to send it forth by
 "an *extream sweat*. And it appeared by experience, that
 "this Disease was rather a *Surprize of Nature*, than *obsti-*
 "nate to *Remedies*, if it were in time looked unto. For,
 "if the patient were kept in an *equal temper*, both for
 "clothes, fire, and drink, moderately warm, with *tempe-*
 "rate *Cordials*, whereby Natures works were neither ir-
 "ritated by *heat*, nor turned back by *cold*, he commonly
 "recovered. But infinite persons died suddenly of it, be-
 "fore the manner of the *Cure* and attendance was known.
 "It was conceived not to be an *Epidemick disease*, but
 "to proceed from a *malignity* in the constitution of the
 "Air, gathered by the pre-dispositions of the seasons:
 "and the speedy cessation thereof declared as much.

I Shall not here transcribe all that I writ against the *Historiographer of the Royal Society*: some thereof re-
 lating more to the *particular faileurs* of Dr. *Sprat*, than
 the *mistakes* of the Lord *Bacon*: Indeed the error of that
Virtuoso was such in *that case*, that 'tis scarce imaginable
 how a man could be guilty of it, and pretend to *com-*
mon reading: Those that I am now to insist on, are
 such as peculiarly refer to the Lord *Bacon*, and argue his
 ignorance in *Physick*. And although it may be said in *his*
 behalf (as I observed) that in an *Historian* we are not to
 be critical for every *punctilio*; not relating to his *main de-*
sign, yet I think 'tis but just to demand, that *what he doth*
write be true: And although cases in *Physick*, no more
 than cases in *Law*, are to be determined out of vulgar
Historiographers, but *Austentick records* penned by *Ar-*
tists; yet since the repute of my Lord *Bacon* is great in
 this *Age*, and made use of to the prejudice of *Our Faculty*,
 more wayes than one; and since my *Adversary* pretends
 to justify the *exactnes* of the account afore-mentioned, I
 shall recollect my Exceptions against it, and then consi-
 der what he sayes in his *defence*.

I complain'd that the relation is defective in sundry material circumstances, as to the Type, or description of the Disease; and as to its Cure.

He sayes no more of its Type, then that it was a Pestilent Fever, terminating in twenty four hours, without any Carbuncle, or purple and livid spots, or the like: wherein a malign vapour flew to the Heart, and seized the vital spirits, which stirred nature to send it forth by an extream sweat. Whereas it seized upon them with a violent heat, and incredible anxiety about their stomach and head; and insatiable thirst; and the sweat which ensued was noysome and stinking. This appears not only out of Polydore Virgil, and Hollinsbed, but such Physicians as writ of it, and are alledged by me: to which I add, the Authority of Wierus, who wrote an excellent discourse of it, and having related the Type of it agreeable to what our Records declare, he adds, that in Germany it began with a chilness and shivering, which continued half an hour or more, and with great pains about the diaphragme and groyn, palpitation of the heart, sudden debility of strength, so that the patient could scarcely stand on his feet: sometimes it seized them with a Giddiness, and pain in their heads; and sometimes (though selome) they vomited up black blood, or choler:

Also, that in the beginning of the disease, the patients hands were swelled and stiff. I added out of Septalius, that the Urine in that disease was commonly livid and putrid; that some piss'd blood, others did void blood at their noses, and even ears and eyes. In fine, the Type of it is thus described by Carolus Valeius Dubourghdieu; "Pestis hujus symptomata erant lipothymia, virium languor, oris ventriculi morsus, anxietas, cephalalgia, pulsus creber, celer & in-equalis: denique sudor graveolens toto corpore emanans. Nec inter Ephemeris censeri poterat, licet viginti quatuor horarum flexu defervesceret, cum largissimus ille, & fatidus sudor,

Joh. Wierus obsevar. l. 2.
de Sudore Anglico, sect. 8:
and sect. 14. Signa morbi
hujus-- breviter talia sunt;
Frigus & horror, sudor fa-tidus cum magna angustia
& caloris sensu circa cor &
pectus, & praecordia, etiam
palpitatio cordis, & calor.
Rubor & tumor faciei, cum
dolore capitis: multi etiam
dolore lumborum tentan-
tur, alii ventris, alii sto-
machi: alii alii in partibus.
dolores percipiuntur.

Ludov. Septal.
de peste. l. 1.
c. 21.

Carolus Vale-
ius Dubourgh-
dieu de peste,
c. 14. p. 227.
This book also
hath no Index.

sudor, non tantum spiritus accensos, sed etiam humores pra-tredinem conceperet, qui nimis maxime natura adhuc robuste & lacefita impetu pellerentur. I more willingly cite such Authors as I mentioned not before, to the end that the *Virtuosi* may be more ashamed of that pre-digious error which they committed in that *History* of theirs.

Describit hanc pestem Eras-mus barum calamitatum spe-ssorator, in epis-tola ad Carolum Utene-Forretto, in Schol. obser. 7. lib. 6. & Ca-sol. Vales. ubi supra.

malum horribilium, nec contagium periculofius, habet tamen illud boni, quod non excarnificet hominem diutinis cruciati-bus, intra duodecim horas, interdum intra pauciores aut tol-lit hominem, aut certam vita spem prabet: atque initio qui-vium citante dem, ut sit, festino, affligit sudore, sed igneo, odoris teter-rimi: visum est ex amne Phlegetonte emissum hoc ma-lum. Ungues potissimum excruciat, alas ita comprimit, ut etiam si velis, non possis attollere. Qui fervoris erant im-patientes, & auram largius admittebant, hi fere subito extinti sunt: rursus alii cum animadverterent, id com-pluribus infelicitate cessisse, dum in diversam tendunt ra-tionem, in idem tum exitium inciderunt: nam occlusis ri-mis omnibus, & excitato igne copioso, operique stragulis, quo magis tutiusque sudarent, astu præfocati sunt. Presen-tius tamen exitium adferebat admissum frigus: tandem reperio temperamento multo plures ab eo morbo convalue-runt, quam extinti sunt: tamen tanta lues, nondum eo tempore invenit nomen, nec ullum efficax ab arte medica remedium haecenus repertum est.

These defects are in the Type of the disease: and in re-lation to the *Cure*, 'tis said by him, that Nature did discharge it self of the malign vapour by an extream sweat. I observed that to be directly contrary to what is recorded by others about it, which is manifest out of *Cai-nus, Forrestus, Erasmus, Sennertus, and others* that relate

J. Wierus, ubi supra. sect. 9

the disease. I shall here add *wierus*, who sayes, " Se-
c' presertim magna cura est adhibenda, quando eger sub inva-sionem morbi vestigio calefactum lectum ingreditur, & stragulis, ad evitandum frigus ambiens tegitur, ne stragu-lis nimium oneretur: recordor enim, quod multi straguli-

rum pondere nimio fuerint excalefatti, suffocati & mortui
 fuerint. ----- In like manner writes Cornelius Gemma.
 Nec te prateribo heu nimirum dira mortalium lues, cui ^{He speaks of its}
 Sudoris Anglici, vel ^{1529.}, nomen ab ipsa symptomatis ^{original in re-}
 specie indidierunt. Orta est hec anno 1529. circa estatem ^{lation to Ger-}
 post humidissimam cœli constitutionem ut à patre pie me- ^{many, where it}
 morie (qui & eundem morbum passus est tum temporis, ^{first appeared}
 evasitque seleniter) ^{at that time.} ipsius audivi. Primum vero ex Bri-
 tannicis locis terras maritimas Hollandiæ, Zelandiæ per-^{Cornel. Gem,}
 vagata, Antverpiam venit, ac celerrime in Flandriam,
 totamque Brabantiam sparsa, uno die sudoris infanda eluvie
 hominum vel multa millia suffocabat. His aderat ea de-
 menia, ut se se lectis & linteis insuoi paterentur, omni arte
 ac vi eliciendum sudorem arbitrati: Heu nimis immemores
 Hippocraticæ voces, quæ sic ait: Si talia purgantur, qua-
 qualia purgari oportet, confert ac facile ferunt; si mi-
 nus contra. Imo interea dum alter alterum strangularet,
 qui præsentes aderant, mutuo adhortabantur; ne se negli-
 gerent, vigente morbi fecia, nec victi pretio, aut precibus
 se ante tempus liberent. Verum quando ad illos ordo per-
 venerat, ut sudandi tempus videretur, consuti similiter,
 & violenter operi clamitabant misere, obtestabantur deum
 atque hominum fidem, se dimitterent, se suffocari injectis
 molibus, se vitam in summis angustiis exhalare. Sed as-
 fistentes, has querelas ex rabie proficii Medicorum opini-
 one persuasi, urgebant continue, usque ad viginti quatuor
 horas, id enim erat sudandi spatium præfinitum, ante cuius
 circuitum evasere quam paucissimi: Tertia mortalium pars
 errore proprio atque insania misere strangulata est.

Vitaque cum gemita fugit indignata sub umbras.

The same is avowed by Lævinus Lemnius, whose dis-
 course I will also transcribe. "Ad febrem ephemoram Lexin. Lemni-
 five diariam referri debet Sudor Britanicus, cuius morbi ^{u. de complexi-}
 symptoma seu accidens est Cordiaca syncope, vel animi dese-^{on. l. 2. c. 2.}
 cens, qui ex stomachi morsu contractus, non minori affectu
 hominem."

hominem conficit, quam si cor vita fontem halitu contagioso
 forinsecus ingruente, opprimi contingat: quod observatum
 est anno 1529. mense Septembri in pestilenta Ephemera,
 que ex aeris contagio exorta totam Belgicam invasit magno
 terore, animique deliquio & palpitatione cordis. Cui hoc
 accessit incommodi, quod Empirici quidam prater artis ra-
 tionem, nec observatis naturae viribus, duodecim horarum
 spatio in sudore agrotos violenter continerent. Quum autem
 aer vitiatus infectusque hinc malo seu ephemera febri cau-
 sam prebeat, symptoma vero atque accidens, quod comita-
 tur, ut umbra corpus, Cordiacus sit affectus, atque animi
 deliquium, tum sudor ipse Crisis statuitur, quo naturae ro-
 bur excussa madida olenique fuligine, morbum discutit,
 quocirca necesse est moderatus is sit, nec quatuor aut sex
 horarum spatio productior, pro virium imbecillitate &
 bore: immodices enim vires dejicit, ac spiritus vitales de-
 populatur. Quod autem morbus hic Britannicus dicitur,
 vel Sudor Anglicus, hinc enatum omnor, quod in ea regi-
 one populares frequentius illo, corripiantur, partim ob ope-
 rosas lautasque mensas, ac ciborum affluentiam, qua illos
 distendi contingit, ut Germanos & Belgas potu, partim
 (ut superiore anno à me observatum est ipso etiam Solsticio
 astivo) ob aerem turbulentum ac nebulosum, densaque ca-
 ligine passim effusum, quo sit, ut conceptaintus & foris mor-
 bi causa atque origine, non sine sanguine & sudore cum illo
 colluctentur, quasi cum valido & preferoci hoste certamen
 sit initum, quem summis viribus excusisse laborent, hinc
 corporis animique defectus & deliquium, hinc spiritus
 langnidi & collapsae vires, hinc intercepta voce occlu-
 sisque spirandi fistulis, vite propemodum interitus atque
 exanimatio. ----- This being the judgment of all Phys-
 icians that write of it, and agreeable to the tradition of
 all Historians; I do not doubt to record the contrary re-
 port thereunto for a fundamental error in order to the
 cure. I farther observed, that whereas the others direct,
 that that the sick party, if dressed in his clothes, should im-
 mediately lye down in them, without adventuring to dis-
 robe

robe himself: this circumstance, though of extraordinary importance (as appears by those *Chronicles* I cited, and other writers) was totally omitted by my Lord Bacon: and that great caution of *not putting the hand or foot, or any part of the body out of bed, or into any cool place*, is not sufficiently expressed in that assertion, that *they ought to keep themselves in an equal temper, both for clothes and fire*. Yet is this observation so considerable, that all severely inculcate it, as being *absolutely necessary to the recovery of the sick*: and so strict were the *Physicians* herein, that *Wierus* saith, for this cause he could not observe ^{3.} *Wierus, ubi* the pulse, or urine of the sick, till the *declination of its violence*. ^{supra, sect. 15.} No less imperfect is that general intimation of my Lord Bacon, that they were to keep themselves with drink moderately warm, and temperate *Cordials*, whereby natures work be not irritated with heat, nor turned back by cold: as any man will see, who consults *Caius*, and *Wierus*, and others. Another omission of my Lord Bacon's was, That he forbids not the patient to sleep during the disease; whereas I observed out of *Cogan*, If they were ^{2d. Cogan's} suffered to sleep, commonly they swooned, and so de- ^{Haven of health. p. 272.} parted, or else immediately upon their waking. Which caution is ingeminated by *Wierus*, "Quamdiu durat vis ^{3. Wierus, ubi} ^{supra, sect. 10.}
 "sudoris fetidi, nec manus detumescunt, nec symptomata
 cessant, oportet a somno abstinere, eique resistere vel piis
 colloquiis, vel aliis licitis mediis. In all pestilential fea-
 vers we are usually cautious how the patient sleep, till
 the venome of the disease be somewhat driven out and aba-
 ted: and so in such feavers as are *Cordiacal*, and attended
 with fainting fits, malignity encreaseth, and diffuseth it
 self intensibly into the principal parts during sleep.

As to the name of the disease, and under what species of feavers it was to be reduced, the *Physicians* could not agree in those dayes: nor whether the sweat it self were symptomatical, or critical; for though all that recovered did recover by sweating, yet all that had the disease did not sweat (such dyed) and if it were symptomatical,

Vallej. method. yet the evacuation was of that nature, that it seemed agreeable to the Rules of *Phyfick*, neither to stop it, nor yet to help it, but only to continue it: and if it were Critical, it was to be continued onely, in like manner; and nature not to be affisted, or vigorated, beyond what was necessary.

Hippocr. Aph. Lect. i. aph. 20. *integre, neque movere, neque novare, neque pharmacis, cum nonis Val- neque aliis irritamentis, sed sinere.* But though they had these controversies amongst them, yet I do not find this to be one;

Sinnett. de febr. l. 4. c. 15. de sudore An-glico. Whether that the Feaver or Pest did consist in a vapour afflicting only the vital spirits? "Cum enim eam sudores copiosissimi, & multa pessima symptomata comitata sint; inde facile colligere est, spiritus non solum incensos, verum & ipsos humores ac calidiores affectos & corruptos esse. Et licet viginti quatuor horarum spatia hac febris solveretur: non tamen ideo ad Ephemeras referenda est, sed inde potius maxima inter naturam & inter pessimum morbum colligiunt pugna. So wierns,

F. Wierns, ubi supra. sect. 7. though he hold that it seized first on the vital spirits, yet avowes, that the mass of blood was also corrupted by the pestilent venome: Nor can any man doubt it, who considers but the Type and Symptomes of the Disease, which I formerly, and now again have represented, as also the precedent season of the year. And I could not but smile at the reason given by my Lord Bacon, to shew that the pestilent feaver was not seated in the veins or humours, nor the Mass of the body tainted. Because there followed no Carbuncle, no purple or livid spots, or the like. For there are many pestilential diseases recorded, in which the mass of the blood and humours are infected, and yet there are no such symptomes ensuing, as this Lord specifies. Such was the disease called *Coqueluche*, or *Morbus Arietis*, and *Catarrhus Epidemius*, in the year 1580. which over-ran all Europe, and of which sundry Authors have written: such were the pestilent pleurisies, pestilent pleari-pneumonies, and pestilent peripneumonies, dysenteries, worms, small pox, of which our Physicians give us large

accounts : and in the Histories of sundry *Camp-feavers*, being *pestilential*, and infecting the humours and *mass of blood*, you may often read how *none of these cutaneouſ eruptions were obſerved*: no 'tis not conſtant in the *Hungarian*, or *ſpotted feaver*, that they appear. Neither is there any thing more true, than what *Aſſarias* layes down. " *Eſſi diximus & peticulas & cæteros decubitus*

*Exan... Mef-
ſariis de rebus
c. 24.*

propria eſſe ſigilli ſere febris pestilentis, tamen id Sciendum eſt, neque id generaliter verum eſſe, neque huiusmodi ſymptomata illis propria & inseparabilia eſſe: Siquidem ex una parte nonnunquam evenit, ut in febre manifeſte pestilenti, ac forte cæteris maligniore, neque papule, neque tumores, neque ulla natura depulſio conſpicatur: ex altera autem ut non ſolum in ſimplici febre, ſed etiam ut placet Altio & multis, qui id conſirmant verum eſſe, ſine febre interdum compareant & macule, & alia id genus ſymptoma, quae ab omni pestilentis effectus ratione ſunt aliena, & nullum periculum afferunt. In fine, How often doth every practitioner ſee, that thofe purple or livid ſpots do not appear till after the party is deceaſed? And when they do appear, 'tis a Question with me, whether they argue ſo great an infection in the *mass of blood* and *veins*, as my Lord intends, ſeeing they have their original from the bones, and thence riſe up to the ſkin, pyramidalily. " *Ja-*

*Heuricus Elo-
cobus Bonitus — cadaver cuiusdam qui exanthematibus rentius in Pier-
hice laborarat, diſsecuit, invenitque ab offibus ipſis initium Paſſus de peste,
ſumere ea, incipereque à latiori baſi, pyramidisque instar c. 4. p. 72.
affurgere, ac tandem in ſummo cutis in conum definere.* This book hath no Index.

And this doubt of mine is confirmed unto me, by ſun- dry reasons, which may be ſeen in *Iſbrandus à Diamer-*

*Iſbr. à Diemer-
brook de peste,
lib. I. c. 14.
p. 19. edit. ultima.*

The Lord Bacon concludes his *Narrative* with a paſſage ſo ridiculous and absurd, that ſo groſſ an opinion is enough to extenuate his judgment in *Physick*, and con- viue any man, that he had little insight into thofe ſtu- dies. " *It was conceived not to be an Epidemick disease,*

Vide Valleſium *in pref. com-*
ment. in Epidemias Hip-
poecr. Ruland. *de febre Hun-*
gar. c. 8. qu. 1. *opinion is so false,*
Fernel. de mort. occult.
lib. 2. cap. II.

Jul. Palmar. de Febre pestilenti, c. 2. *Ludovic. Septal. de peste, lib. 1. c. 2.* *Neuerahrzyn de Purpura, c. 9. pag. 106.* *Zacchia. qu. medico-legal. lib. 3. tit. 3. Qu. 1. fid. 23.* *Mercatus de febr. t. 9. c. 1.* *Anton. Sarracen. de pest. nat. pag. 6, 7, 8.* *Th. Jordan, de pest. phanom. tr. 1. c. 2.*

Having premised these things for the better understanding of the present Controversie, (most whereof were set down before in my Animadversions) I now come to consider the Defence which ----- Thomson makes in behalf of the Lord Bacon: and I find it so defective, that of all the Exceptions I have brought, only two are controverted; the rest are passed by in a profound silence, by my talkative Antagonist.

The first is, as to the Cause of the Disease, that It consisted in a malign vapour, flying to the heart, and seizing on the vital spirits, which stirred Nature to send it forth by an extream sweat.

The second, that The proper cure of the Sweating, Sickness, consisted in extream sweats.

p. 106.
 To the first, ----- Thomson's reply is, "The material cause of this truculent disease, proposed by him is, a malignant vapour, i. e. Gas sylvestre, an incoercible spirit, which by reason of its subtlety, resembling the vital spirits, could readily mix it self with them, forthwith infecting the same, especially those about the heart; whereby the plastick power of the Archæus, as an efficient cause, the the perfect Idæa, or image of this specifick disease is pourtrayed, part of the vital spirits, being, as it were tinged by the intermixture of these contagious particles, and part remaining in its integrity, being exasperated at the pre-
 sence

‘^csence of such an hostile intruder, stirrs up nature, i.e.
‘^cmusters up all the faculties, forces, or strength belonging to
‘^cthe ^{I suppose is} *in quo*, or Archæus, and withall summoning the Latex,
‘^cor Lympha, to be assistant to the ablusion and ablation of ^{I suppose is} *in quo*,
‘^cthis fermenting, malign impurity, which is sent forth by
‘^can extream sweat. The inward procuring occasional ex-
‘^ccitative cause was a pestilent venome, a tabefying mat-
‘^cter, immediately lodging in the degenerate juyces about the
‘^cstomach and spleen (Helmont’s duumvirate) not in the
‘^cveins or fictitious humours, which, sending forth fetid pu-
‘^ctrefactory particles, annoying the Archæus, caused an in-
‘^cdignation, or fretting disposition, at presence of that which
‘^cis altogether Exotick, and incongrucus with nature :
‘^cwhereupon thus put upon the stress, it exerts all its power
‘^cand faculties to the expulsion of such a virulent Guest, per-
‘^cformed most conveniently by large sweats, before which,
‘^cthere must necessarily precede a feaver, from the collision,
‘^cconglomeration, tumult, and confusion of the vital spirits
‘^cthus assaulted ; as is frequently observed to fall out, when
‘^cany extraneous thing to Life getteth into the flesh, to wit,
‘^ca thorn or splinter : so that a feaver is but a consequent
‘^cof the fury and rage of the Archæus, and a precedent of
‘^cthe expulsion of the *in quo*, the matter of the disease.

In this discourse there are so many *un-intelligible canting terms*, that to speak well of them, a man must be a *Virtuoso*: for that kind of men, being obliged by their constitution to be very civil one to the other, will bestow the *Elogies* of Learned and ingenious, upon the most ridiculous speaker that ever opened his mouth amongst them. The turning of a malignant vapour into *Gas Syvestre*, and making them synonymous, is an unpardonable error in the *Helmontian Phylosophy*, which makes the *Gas* and *vapour* to be distinct things in nature. “*Itaque Gas distinguitur a vapore, quod in hic sat assurgat cum mercurio, & habeat sulphur inclusum; Gas vero sulphur extraverit atque subdividit.*” The *plastick* power of the *Archæus* are empty words, and more difficult Grenbi Arbor integr. & rui- nos, lib. i. c. 6, de meteoris, sect. 2. sect. 5.

expressions than ever poor Aristotelian used. The whole paragraph is nothing but jargon and non-sense, yet suiting to the revocable Hypothesis of this Age. The juyces in the Stomach were not degenerate ; seeing that the disease did invade the most youthful and healthy. His placing of the infection in the degenerate Juyces of the Stomach and Spleen, and Latex, (another canting term) is contradictory to what the Lord Bacon saith, that the malign vapour did flye to the heart, and seized the vital spirits, and not the mass of blood, or other grosser juyces, called Humours. Oh most excellent Advocate, and Baconian Philosopher ! If it did not invade and affect the blood, how came those sanguinary evacuations ? 'Tis to no purpose to reply, that the blood and other humours (which composed that fetid sweat, and occasioned the heat, thirst, and other symptomes) were only secondarily affected ; for then in the declination of the disease, there must have been Carbuncles or spots, according to that Indictious Historian. I think the Galenists give a better account of it, when they say, that a particular venome, or peculiar kind of superlative putrefaction, did at that time infect the air, which, encountering bodies predisposed to sweating-diseases, by the heat and moisture of the preceding year (ὅτι τὸν αἵγανθον τὸν παραγόντα τὸν φλεγματικὸν καὶ τὸν πυρηνικὸν, οὐδὲν μέσον τούτων τοῦτον γίνεται, Quando astas est similis veri, tum sudores multos in febribus expectare oportet) or perhaps by celestial influences, occasioned that disease : whereof the Cure was to be learned (it being a new disease) from the observation of that course by which Nature did ease it self : for of all the venenate qualities which, by infection of the air or diet, are engendred and commixt with the constitutive parts of men, scarce one produceth the same symptomes, or is cured the same way by which another is. Thus some spotted fevers have been cured by fluxes, others by sweat and urine : some have had their critical motions, others have been so malignant as to admit of no such periods, or delays : And hence it is, that very eminent Physicians have not restrained the name of Plague

Hippocrat. fecc. 3. aphor. 6.
Langius ep. med. l. 1. ep. 19.

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to any one form of disease, but left it unconfin'd. In this disease, since none recovered but by sweat, and most recovered that were sweated moderately, (according to the relations given) it was their busines to promote Sweat, and therein to shew themselves subservient to nature : and herein the latter part of my Lord Bacon's account agrees with that of the *Thaumaturgus* : viz. To keep the patient in an equal temper, both for clothes, fire, drink, moderately warm, with temperate cordials : though it be most false, that Nature was stirred to cast forth the venome by extream sweats : for such dyed ; and therefore such emotions must have been the consequence of Nature, erring through a virulent irritation, or fainting under a putrid exolution. As for the comparison betwixt this venome or Gas (which — — Thomson understands not what it is, being ignorant in his own principles) and a thorn or splinter, 'tis most absurd : for those occasion only symptomatical Feavers ; these venenate aerial or dietetical poisons, produce originary and real feavers ; they are intimately commixed with the mass of blood and humours ; and as in fermenting wine or Ale, the incoercible Gas hinders not the purification and generation of those generous liquors, so neither would it here : but 'tis rather like those fermentes or mixtures which corrupt the VVine or Ale several wayes, according to their several natures, but are not comprehended under the name of Gas peregrinum & sylvestre. But I will not give my self the trouble of instructing these ignorant Baconian Virtuosis : 'tis an endless work : 'tis enough that Helmont suppolet that the Gas endureth not the Sulphur, whereas these noysome Sweats must have had much of that, if the Chymical writers may be believed.

As to the reason which my Lord Bacon gives why it was not seated in the veins, or mass of blood ; because there were no purple or livid spots, nor carbuncle, or the like. In defence of that, all that — — Thomson sayes, is, "That the reason did well become him : (which I easily

Jo. Beckerus
physic. subter-
ran. 1.1. sect. 5.
c. 2. sect. 29.

*easily grant, since he understood not *Physick*) for in reality, the effects of this *Anomalous poysen* was most eminent in the *Serum or Latex*, a concomitant of the blood, a great depraved quantity whereof was collected in the body, through the then unaccustomed ill natural texture of the air, &c. This is all that he saith to the purpose: wherein, for proof, he gives us his own assertion; which the most illiterate Mountebank or Virtuoso may do: and 'tis contrary to all those presumptions which the *History of the disease* doth suggest unto us. Besides, if the *Latex* or serum be a concomitant of the blood, (as he sayes) How is it true that the disease was not seated in the veins? Is not the blood there mixed with the *Latex*? If it were in the *Serum*, How are the *Humours of the body* free from infection? since that is one of them. A Lawyer that shoulde thus defend his client, would deserve to be cast over the barr: What your Baconian Experimentators may adjudge ——— Thom-son unto, I know not: but no intelligent person can favour him.

The next point is, Whether the cure of the disease consisted in extream sweats? My Adversaries words are these; "You cavil at our Lord, because he sayes, Nature did strive to send forth its virulency by an extream Sweat: whereas your beloved Authors tell you, all that recovered, were recovered by the continuance of a moderate sweat. This (say you) Experience and Observation taught them; but 'twas but Galenical, and that may be certainly verified of you to be the Mistris of Fools; for οὐδεὶς σολεύει: None but a pyrotechnist can explore as he ought healingly. I pray Sir, what but Nature should strive to send forth the virulency? Doth not Hippocrates tell us what is infallible; Naturæ (i.e. vitales spiritus) sunt morborum medicatrices; which you ought to imitate in deed, and not as you word it: then the Quarrel would quickly be at an end betwixt us. But the Extream Sweat (it seems) stumbles you: But why should

'Should that? An extream disease must have an extream
 'remedy: This Hippocrates doth also dictate. In extre-
 'mis morbis extrema exquisite remedia sunt optima.
 'Malo nodo, malus cunus. But let us know a little strictly
 'what is meant by an Extream Sweat, and a moderate, in
 'relation to this trulent plague. The extream sweat (i.e.
 'very large) was, according to the story, mortal. The Mo-
 'derate salutary. VVhich I deny, τὸ μέσον εἰ γελαθόν, qua-
 'tenus mere Sweats: for, according to my Observation this
 'twenty three years, all malignant pestilential Feavers, the
 'Pest it self, and the Griping of the guts, which holds a
 'fair proportion with the Sudor Anglicus, did all receive a
 'most certain and expedite Cure, best by extream large
 'Sweats, if the strength were kept up; otherwise no sweat,
 'more or less, is of any significant benefit. Quicquid si vir-
 'tute naturæ, fit ἀδύοις καὶ λαβόαις, non autem μανιαζόται.
 'VVhatsoever Evacuation is attempted by Nature robust,
 'directly supported, is performed plentifully, impetuously,
 'and incontinently, not dribbling by piece-meals.

In this discourse I shall pass by that ignorant compa-
 rison betwixt the Griping of the guts, and the Sweating-
 Sickness, betwixt which there is no affinity that I can
 learn: and perhaps Spigelius in his book about Semi-
 tertian fevers, may give the best account of that disease:
 'tis one, I confess, I never saw, but I dare avow, 'tis not
 of the nature of the Sweating-sickness; though it may
 so happen, that the Griping of the Guts, as well as other
 diseases, may be not only malignant, but pestilential.
 He is a Baconical Philosopher, and therefore may write
 any thing. It is also observable, that I gave him no
 ground for that demand, *VV*hether nature did not eject the
 virulence? and *VV*hether we ought not to imitate Nature?
 No Galenist or sober Physician, did ever deny these things:
 and the latter assertion is that, on which all our practise
 is founded. 'Tis for the Virtuosi, who approve and talk
 of Commanding Medicaments, (which over-rule nature)
 to deny it: or for the followers of Van Helmont, who

teaches that 'tis an *imbecillity* of a *Physician* to attend or permit any *Crisis* or *concoction* of a *disease*. We are willing to be tryed by that *Rule*; yet not to be reconciled to — Thomson. I must also take notice of the contempt which he expresseth for the *Experience* of the *Galenists*, in comparison of that of the *Pyrotechnists*: whereas very few of these *Philosophers* by *fire*, have so much judgment as to make an exact experiment: But those of the others are as certain and accurate (understand me not of all) as *humane nature*, and the *mutability* of *humane affairs* are capable of. I now come to the principal *controversie*, concerning the benefit of *Extream sweats* in this *disease*. I confess 'tis hard and strange in a *Peripatetick*, that I should be pressed with arguments against matter of fact; this is a *weakness* of *judgment*, saith *Aristotle*. But though all the writers else do dissent from my Lord *Bacon* herein, (and 'tis bruisible to call the credit of so many attestations into dispute) yet I shall shew some regard to the reasons alledged. That the remedies of a *disease* must be as exquisitely *extream*, as is the *disease* it self, may, with some interpretations and restrictions pals: for there is a caution to the contrary. *Exstrem evanescens* ai is no *Exstrem* *evacuations*. *Extream evacuations* are dangerous; and no man putteth the *Life* of his *Patient*, if the *disease* admit of any *delay*; which some plagues have done: so that there is *judgment* to be used, and *observation*, to warrant that practise, such as my *Adversary* is not capable of. But however, this doth not specificate the remedy, or inform us whether we ought to bleed, or purge, or sweat, in *extremity*. A *Squintancy* or *Apoplexy* are *extream diseases*, yet no man in his wits, would in them rely upon the most potent *sudorificks*. So that I am obliged to desire my *Adversary* to apply that general *proposition* to his conclusion for *violent sweats*: for I cannot. But he sayes, that *Extream sweats* have been observed by him to be the most expedite cure for all *malignant pestilential feavers*, the pest it self, and the *Gripping* of the *guts*: and for this he alledgeth the *Experience* of twenty three years.

Had our
Au.

Author been one of those *Rosicrucians*, who pretend to have lived about three hundred years, his *Experience* concerning the *Sweating-sickness*, might have importred somewhat: but since he never saw that disease, nor hath had any *tryals* to cure it, 'tis most impertinently argued, that because some other malignant and pestilential diseases, the plague it self, or *Griping of the guts*, are cur'd so sometimes (for 'tis no more) with success, therefore the *Sweating sicknes* ought to be so cured. I dare say, an hundred *Galenists* have taught us to cure the *Plague* by *extream sweating*. I shall only mention *Sennertus*, *Petrus Paam*, *Palmarius*, *Van der Heyden*, *Gardinius*, *Isbrandus à Diemerbrook*. Concerning pestilential and malignant feavers, the assertion is false, or must be regulated by many considerations, before it can be admitted: As to the cure of the *Griping of the Guts*, I do not hear such a character from *London*, of his *Cures* thereof, or the success of his *pepper-drops*, to endear his *Method* unto me. But after all this, he concludes me by a *third reason*, which, if it were true, I would submit thereto. viz. *whatsoever evacuation is attempted by Nature robust*, directly supported, is performed plentifully, impetuously, and incontinently, not driblingly, by piece-meals. Therefore, since the *Sweating sicknes* was an effect of robust nature, ejecting the venome of the disease, the sweats must have been violent, and the *Physicians* ought to have procured such. But I cannot find any solidity in the Argument. *Quicquid fit virtute Naturae, fit ad eum q̄ λαβεται non autem πολυποτε*, Is no Aphorism of *Hippocrates*, though you read it πολυποτε, nor true amongst *Physicians*. The *Sweating sicknes* is an instance to the contrary: and so are those diseases which are terminated by a slow bleeding at the nose, which if sufficient to put an end to the disease, needs not to be impetuous. Neither is it necessary that all the evacuations of invigorated nature be *extream*: there is a practical rule in *Hippocrates*, which doth not direct us so much to the quantity, as quality of what is evacuated, and the benefit

which the Patient finds upon it, and the strength with which he bears it. *Quae praevenit, non sunt estimanda multitudine, sed ut praeveant qualia oportet, & ferat facile.*

Hippocr. sect. 1.
aphor. 23.

Those evacuations in morbid bodies, which are either produced by *Art* or *Nature*, are not so much to be judged of by their multitude, as by their being suitable to the disease, and beneficial to the parties. It is true, that small evacuations, as drops of blood from the nose, and spots in malignant and pestilential fevers, and small and partial sweats, are of a dangerous prognostick. Yet it is not so necessary that the evacuation be great, as that it be appropriate to the disease, and well undergone by the Patient.

Prosper Alpin.
de presag. vita
& morte, l. 7.
c. 11.

For, let never so much come away (as in dejections of sincere humours) yet if it be not such as the disease requireth, 'tis evil, if not pernicious: And if it be not undergone with strength and benefit to the patient, certainly the evacuation is prejudicial. But if those *Humours* be evacuated, which are the cause of the disease, and the Patient bear it well, such evacuations are not hurtful; whether they be greater or less: If they are less, the benefit is less, yet are they beneficial: and if they be greater, if the Patient bear them well, how great soever they be, they are not excessive. There are times when even critical evacuations call for our aid to moderate and abate them: that is, when they transcend the strength of the patient; and the vital indication being alwayes urgent, we must not suffer the party to dye by his *Cure*, any more than by his disease. But neither is it true alwayes, that *Nature* operates thus violently; and there happen frequent circumstances, in which the *Physician* ought not to correct her deficiency, but otherwise make the best benefit he can of it: This happens in *Syntomatical evacuations*, in diseases that are of difficult judicature, whereof, as some are noxious, and to be stopped; so some are beneficial, yet not to be promoted: these give hopes of recovery, but of a slow one: and where it is apparent that the disease will be *Slow*, *Novel*, *Slow* and *diffuse*.

Valleſim in
Aphor. 23.
ſect. 3.

fitile in its own nature, 'tis madness to promote those excretions, which may weaken nature, but not depel the distemper: those small evacuations and otherwise unseable, in such diseases, have their advantages, and they which under them escape with difficulty and danger, would unavoidably perish without them. This is a known case in Physick, which to insist farther on, were to teach Thomson the Method of Physick, which is not my present intention; I only recommend this to these Baconian Experimentators, that they would understand before they judge; which I am sure my Adversary does not.

I have now fully and perspicuously replied to all that He hath said in defence of the Lord Bacon, which is the principal part of his book: I might leave the rest to be replied unto by Dr. Chr. Merret, as a more fitting Antagonist for him, than I am: the match being pretty equal betwixt them two. Yet I shall cursorily shew the ignorance of this man, in one other important passage of his Book.

He is pleased infinitely with talking of Van Helmont, p. 45. as one that instructs in real entities; his philosophy is most veriloquous and Authentick. I shall take the liberty to tell him, that I esteem best of that Philosophy (in reference to Physick) which is most useful and beneficial to the health of men; and this I desire to see evidenced by practise: and I farther judge of an happy practise, not by the plausible reasons he gives, nor the pretty curiosities with which he sets off the preparation, or efficacy of his Medicaments; nor by the confidence with which he boasts his own performances; but by the esteem he gains in the world, and multitude of patients, who will resort unto him that doth the greatest cures: so sweet is life. But I have assurance from those who knew and observed Van Helmont, that he was no great nor happy practitioner: and I am confirmed in this opinion, by what J. J. Becherus relates concerning him, who (though he have otherwise

otherwise some esteem for him, yet) reckons on him as
 an idle Theorist. "Concerning Van Helmont, I know
 J. J. Becherus
 physic. subter.
 l. i. scđ. 4.
 c. 1. scđ. 7.
 not well what to say: It is said, that he could not cure a
 common feaver; and that he dyed of a burning feaver,
 because he would not make use of any Physician, whose
 faculty he had so reviled and contemned, choosing rather to
 dye helpless. Doctor Kraft [one much celebrated by
 Becherus] told me, that being in Brussels, he enquired
 after Van Helmont, and demanding of some persons which
 had lived long in the same street that he did, where his
 house was? they could not tell him, and protested they
 had never heard of his name: whereat he was surprised,
 as deeming it impossible, that a Physician, who, like ano-
 ther Aesculapius, performed so miraculous cures, and to
 whom multitudes might be presumed to resort, having
 lived so many years in one place, should not be so much as
 known to his next neighbours, amidst whom he had lived. In-
 deed many complain, that the Theory which he lays down
 is not found in Practice to answer expectation, which hath
 occasioned the death of many Physicians and their Patients:
 as appeared in the late plague upon the Rhein, where a
 dapper Priest and his brother, having by chance met with
 Helmont upon the Plague, they read it over so studiously,
 that they retained it all in their memory most exactly, and
 thought it was impossible but that the Practice would be
 such as would justify the Theory. From Holland they
 came to the infected places, and desired leave to att
 the Physicians in the cure of the Plague: which having ob-
 tained, in a few dayes they both dyed. It is manifest
 hence, that many things may be with great plausibility dis-
 puted by a subtle tongue, and wordy pen, but few ap-
 pear good upon Experience. As little is to be laid in the
 behalf of Phedro, Scheunemannus, Severinus Danus, and
 Paracelsus: and Henricus Lavaterius (and others) shew-
 H. Lavaterus, et al.
 Defens. Gallo-
 nia. adv. A.
 Salam. p. 81. eth, that the performances of Angelus Sala, (though one
 of the best of the Chymical practisers) did not gain him
 credit in Switzerland, but that his famed extracts proved
 fatal

fatal to many persons of quality there. There is not anything so lying as a Chymist ; and the Medicines they boast of, and the Laboratories they talk of so much, are commonly found to be delusory brags. I shall not prove this out of *Agyro-mastix* : nor insist upon it, that Mr. Odorde did pretend to as great Arcana as any of the Fraternity : God had been pleased to communicate unto him a Method in the plague, to preserve thousands from the grave, <sup>Odorde's poor
mans Physici-</sup> _{an, p. 89.}

which he promised to administer publickly and freely to all that should desire it. Yet did he and his wife dye thereof, in 1665. They will write books of Theories, Processes, and Medicaments, yet never make or try them. Thus Faber of Montpelier writ much in Chymistry, but most notorious untruths. An eminent person told Becherus, that being excited with the renown of the man, and a curiosity in Chymistry, he went from Italy into France on purpose to converse with him ; but could not find that he had so much as one Furnace, or was at all versed in the practice of Chymistry. So Agricola, who writ upon Poppinus, was put to publick shame by an Apothecary, for writing so many untruths. <sup>F. J. Becherus.
ubi supra.</sup> So that it behoveth the people to consider, not so much with what impudence a man vaunts himself ('tis an usual sign of a proportionable ignorance and imposture) but to examine rather, as I do, the solidity of their discourses, and efficacy of their Medicaments : 'tis not a casual cure that makes a man knowing : 'tis not a sudden alleviation, which lasts not long, and perhaps throws the Patient into a worse disease, or destroyes him in a short time, that argues the goodness of his Medicines. No, the constitutive qualities of a Physician, are skill in the real causes (or such as are as effectual as if they were so) and the signs of diseases : the diagnosticks and prognosticks, and a Method of curing (authenticated by the History of Medicine) and Medicaments, such as the Experience of Sage practisers recommends unto us, (to which end he must be well read in the History of the Materia Medica, and not set up with two or three praxes) these

these render him accomplish'd : He that understands *Humane Nature* best, and the operation of the *non-natural* and *preternatural* things upon it, is the person to be employed : not every one that can proclaim a catalogue of *diseases*, (which oftentimes are *of necessity* to be cured several wayes) and boast of *effectual*, *pleasant*, and *universal medicaments*, is to be regarded. 'Tis not the most acute, experimental *Philosopher*, that is the best *practitioner*: many *Theoremes* are plausible, which *practice* refutes : this was the death of *Van Helmont*; thus *Des Cortes* diei
Fac. du Bois,
in pref. scripti
adv. Wintichi-
us.
 of a *pleurisie*, when, through a *prejudicte novelty*, he refused to be let *blond*. 'Tis not great ingenuity and parts employed in *florid*, or *different studies*, that make any man a competent judge of a *disease*, or the *operation* of a *Medicament*: The *Lord Bacon* is a great instance of this truth, and the instance of the *Sweating-Sickness*, convinceth us of the *vanity* of him, and the *Comical wits*, in their pretences to *discourse* of, or *reform* what they so little understand.

I had thought to have prosecuted some other points, by him agitated, and to have demonstrated the *vanity* of the courses he takes, and *Medicines* by him recommended : and to have vindicated the *ancient Physick* and *Medicaments* particularly, and given an *Historical account* of the inconveniences that have befallen this last *Century*, by reason of these *Pseudo-physicians*: but I have not leisure now to do it; nor is my Adversary so considerable, that I should take so much pains to expose him: what I have writ here, is enough to shew his *intolerable ignorance* and *folly*, and represent him as *unfit* to be entrusted with the life of any man.

A POSTSCRIPT.

I Think I cannot better conclude this Treatise, than by representing to —— Thomson, that account which he himself gives elsewhere of the Sweating-Sickness : for thereby it will appear, how out of an ambition to contradict me, he opposeth himself : yet is even that as little agreeable to truth, as 'tis to the relation of my Lord Bacon.

G. 7. Of the true way of preserving the Blood, pag. 24.

" Here I cannot but make an animadversion upon that truculent disease which formerly raged in England, to the destruction of some thousands. It had its original undoubtedly from a degenerate Latex turned into a malignant Ichor, which caused a tabefaction, or colliquation of the Blood and nutritive juyce, which issuing forth in a copious measure symptomatically, without any Euphoria, or alleviation, quickly consumed the Stock of life. The attempt made at first to cure this malady, by stopping the sweat by astringents and cooling things, proved not only fruстрaceous, but also very mortal, for the malignity being thereby more concentrated, wanting a Momentum vent through the universal membrane, it forthwith preyed upon the Archæus, extinguishing the lamp of Life in such sort as a Mephitis, or subterraneous damp doth obsfuscate, and at length put out the flame of a Candle. Now the proper adequate remedies that took effect in this feral evil, were Eustomachies, as likewise counterpoisons, that did immediately resist the venome by obliterating the Idæa thereof, by corroborating the enormous,

mon, exterminating the intoxicated Ichor, and ill-comdition'd Latex, through the habit of the body, carrying it that way quo natura vergere studebat.

This Baconian Philosopher here directly contradicts what he would seem to assert against me : viz. His Author and he say there, that the mass of blood in the veins was not infected (for then there would have ensued spots and botches) but only the vital spirits. Whereas here he saith, that it had its original doubtless from a degenerate Latex, turned into a malignant Ichor, which caused a tabefaction, or colligation of the blood and nutritive juyce. And undoubtedly he is deceived, in fixing the original of that disease in the Latex, whereas it depended, and had its beginning and being from a particular venome and corruption of the Air ; for, notwithstanding that the unseasonableness of the preceding year, might have depraved the bodies of men, yet did both arise, spread, and cease so suddenly, that 'tis evident its original and continuance was derived from another cause. Whereas he sayes it was Symptomatical, 'tis a sign he understands not what he sayes : for symptomatical evacuations

Sennert. Inflit. (at best) are neither to be promoted, nor provoked, but medic. l. 3. only continued : whereas such as did not of themselves part. 3. c. 10. sweat, were to be forced in this case, to sweat moderately; Fr. Valles. Contra medic. otherwise they dyed. I profess I do not know yet the nature l. 15. c. 3. of that disease, whereunto to reduce it, or how to speak of Prosper Alpi- it, in the language of a Physician : they that saw it, were nus de prasag. vita & morte, as much perplexed with the notion of it, as with the l. 6. c. 3. Ludov. Septal. Cure. That any Physician did then go about to cure Ludov. Septal. it, as my Adversary reports, by stopping the sweat by animadvers. l. 3. feb. 60, adstringents and cooking things, is an attempt I cannot believe, till I see some good Author for to averr it : it being contrary to the most received rules of Medicine. And it is certain, that in England (at least the first time) the cure is not said to have been performed by Eustomachies and counterpoisons, that did immediately obliterare

iterate the Ideas of the venome, corroborate the humor, and exterminate the intoxicated Ichom, and ill-conditioned Latex, through the habit of the body. For, the Patient was to lye still during the whole twenty four hours, and so cast the clothes on him, as in no wise to provoke the sweat, but so lye temperately, that the sweat might distill out softly of its own accord, and to abstain from all meat, if he might so long suffer hunger, and to take luke-warm drinck. — Out of which, it is manifest, that they did not use such means as — Thomson relates: and if small beer warmed may pass for a cooler, the use thereof was more beneficial than he will allow of. But whatsoever were the Method at the first time of that sickness, in the time of Dr. Caius, (though they were cautious of giving any thing, if the Patient did sweat, till some hours were past) yet did the Physicians use temperate cordials, but moderately given: and such as he would have termed somewhat cooling, but that so powerful and prodigious effects as were then seen, ought not to give credit to Galenical Medicines: yet had they no other in those dayes, vulgarly used. In Germany, when the diseased party did not sweat, they gave them treacle, and other Galenical medicines to enforce them: when he did sweat, then did they give them manus Christi perlated, jelly of currants, berberies, and the like, mixed with the conserves of red roses, borage, and marigolds; and if the patient could not refrain drink, then was such a Julep as this prescribed;

R. Of the waters of Sorrel, Scabious, and Carduus Benedictus, of each three ounces: of the Syrup of Sorrel, and that of Syrup Citron-juice, of each an ounce and an half. m.

This direction is irreconcileable to what my Adversary writes: yet were such Galenical medicines effectual in that strange disease: And to see with what

E 2 indis-

Tb. Cogan's
Haven of
health. p. 273.

With this relation of T. C's.
do agree both
Polidore Virgil, Hollin-
shed, and Hall,
in their Chro-
nicles of Hen-
ry 7.

Wicess obser-
v. l. 2, de sudore
angl.

indiscretion this Pyrotechnist mentioned the cure of this Distemper, one Tyengius was famous in Holland for his success therin, whose method is thus described.

Petr. Forrest. Observat. l. 6. obs. 8.

" Quod ad curationem attinet, & venasertionem, &c purgationem, ab initio statim exhibebat ; sed prorumpente sudore ab iis abstinebat, ne motum naturæ impeditret : & magna cum laude (uti scripsit) utebatur tali potionē ;

" R. Hordei mundati, florum nenupharis & violar. ana m. β. Carduibus. pimpinelle, borragin. buglos. paſſul. enucleat, ana. p. j. ſicuum numero decem, lentinum excorticat. 3vij lacce abluta & mundæ 3v. tragacanthi 3ij. Zedoaria, dictamni, rad. tormentillæ ana 3j. f. decoctio in aqua nenupharis & buglos. q. s. & post frigidationem exprimatur.

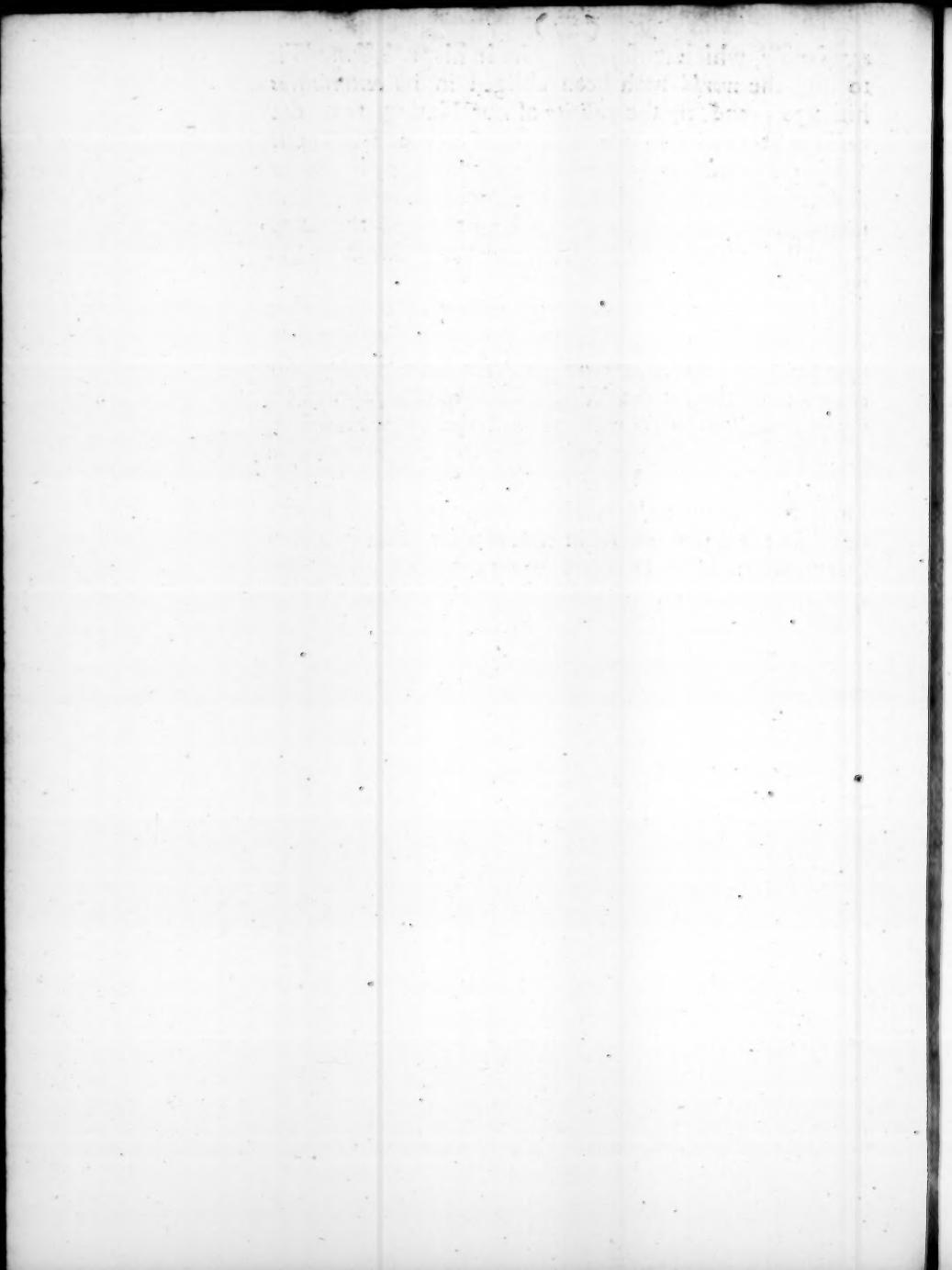
This potion (which these Mungrel Chymists would call a detestable shop-drench) did he give as a temperate cordial to his Patients, to allay their thirst, and gently continue the sweat : He gave it warm, causing them to suck frequently a few drops, or so, through a reed.

I have been more particular in this, to convince the Baconian Philosophers, how different Cures the Physicians in several Countries, were put upon in a disease which seemed to be uniform and the same, so that 'tis not the knowledge of the general Types of diseases, (I dare speak so, notwithstanding that Dr. C. M. called me intollera-
bly ignorant for it ; but 'twas he was so) nor the collecting of sundry receipts and Arcana, that accomplish a practitioner, but a more laborious study in the grounds of Medicine, skill in the diagnosticks, prognosticks, Method of curing, and the History of Epidemical diseases, and particular cases, together with the Experimental accounts of our Materia Medica, and the Art of compounding Medicaments

occasionally, which must perfect him in his profession. 'Tis to such the world hath been obliged in its extremities hitherto ; and 'tis the felicity of our Nation, that the Colledge at London is composed of such, and such our Universities do breed : and were all the books in Europe to be consumed by fire, 'tis the works of such men I would intercede for, and rescue, whilst all those of the Lord Bacon, the Baconical Philosophers, and Van Helmont, should be consumed by the flames.

There are other faults in this account of G. T's. that I might insist on, as, that the *intoxicated Ichor* should issue forth in a copious measure symptomatically, without any euphoria or alleviation : Which is absolutely false. For, though violent sweats were mortal, the more moderate, though copious, did not only alleviate, but recover the Patient, if all circumstances besides were duly observed. I might reflect upon the canting language and jargon which he useth : He that writes in that manner, does prudently, to dedicate his books to such as are not befitting Judges of what they contain.

F I N I S.



AN EPISTOLARY
DISCOURSE
CONCERNING
Phlebotomy.

In Opposition to

—G. Thomson Pseudo-Chymist, a pretended
Disciple of the Lord *VERULAM*.

Wherein the *Nature of the Blood*, and the effects
of *Blood-letting*, are enquired into : and the practice
thereof *EXPERIMENTALLY* justified (according as
it is used by *Judicious Physicians*.)

{ In the Pest, and Pestilential diseases :
In the Small Pox :
In the Scurvy :
In Pleurisies :
And in several other diseases.

By HENRY STUBBE, Physician in Warwick.

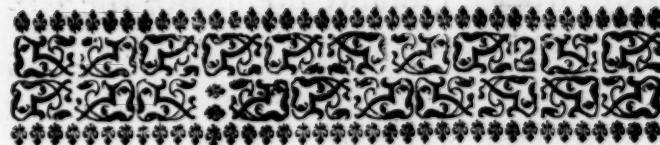
Hippocrat. l. 1. Aph. 2.

VASORUM inanitio si talis fiat, qualis fieri debet, confert, & bene
tolerant : si minus, contra. Inspicere itaque oportet & regionem, &
tempus, & etatem, & morbos, in quibus convenientia, aut non.

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TO THE
Glory of His PROFESSION,
THE
Ornament of this NATION,
AND
His most honoured Friend,
Sir ALEXANDER FRASIER, Knight,
Principal Physician to His
M A J E S T Y.

SIR,

WEre it the *Mode of this Age*
to conferre *Divine worship*
upon *Physicians*, or to erect
them *publick Memorials*,
more Countries than *Eng-*
land would be your *Idolaters*, and be-
A 2 fides,

The Epistle Dedicatory.

sides what an infinite number of the *Nobility* and *Gentry* would honour you with, our *Royal Sovereign* would erect a ~~Sta-~~
~~tue~~ to you, as the *Ancients* did to *Æsculapius* and *Higia*, PRO SALUTE
SUA ET SUORUM. 'Tis in
your Happy Practise that we see what per-
fection great Learning and long Expe-
rience can advance a consummate judge-
ment unto : The most *unlimited* desires
whereunto Ambition can transport any
of our Faculty, are but to equal Doctor
FRASIER. So much we may think
of : So much we may wish for : But we
must reckon those thoughts amongst our
extravagancies, and despair as much of
atchieving them, as the greatest impossibi-
lities : I do avow it in despite of Envy,
Malice and Ignorance, that the discovery
of the Longitude, or North-west passage, is
a more feasible design. These are not
the customary Complements of a Dedica-
tion :

The Epistle Dedicatory.

tion : Whosoever apprehends that *I can flatter*, understands not *me*: and He is unacquainted with *Your worth*, who imagines *You can be flattered herein*. The *judgment* of the most intelligent Prince that ever swayed the *English Scepter* hath put an end to all *suspicions* of this nature; and *His Illustrious Elogy* hath rendered all *Panegyriques* needless unto *you*. I profess I should condemn my self as *intolerably criminal*, should I surmise that any *Address* from *me* could add to *Your Glory*: But *those* who receive no *Accessionals* from our *Applications*, and *Praises*, do notwithstanding permit us thereby to testifie our *Respects* and *Gratitude*: And I beseech you to believe that the *presumptuous Declarations* of these *Truths*, is the result of *those Sentiments*. I esteem it amongst the peculiar *Felicities* of my *Life*, to have been favoured by a Person of so *transcendent*

The Epistle Dedicatory.

dent Merit, and who dispoſeth not of his Kindneſſ promiscuously: I am rede-
vable unto You for ſome place in the re-
gards of his Sacred Maſteſty, and for
ſome Effects of his Roial Bounty:
'Twas the Charaſter You gave of me,
which procuraſt me that Employment,
in which I was deſigned HIS MA-
JESTIES PHYSICIAN IN
THE ISLAND OF J A-
M A I C A. Sickneſſ did there inca-
pacitate me from acknowledgiſt that
Heroical Generofity of my Prince with
any conſiderable Service; But I ſhall
alwayes retain a due ſenſe for what He
hath done, as well as for what He hath
pardoned; and this ſhall ever be an in-
cenſive unto me ſo to qualifie my ſelf,
that I may be able to repay Him all that
Loyalty to my K.I.N.G, and obli-
gation to my P A T R O N can re-
quiere.

Amidſt

The Epistle Decatory.

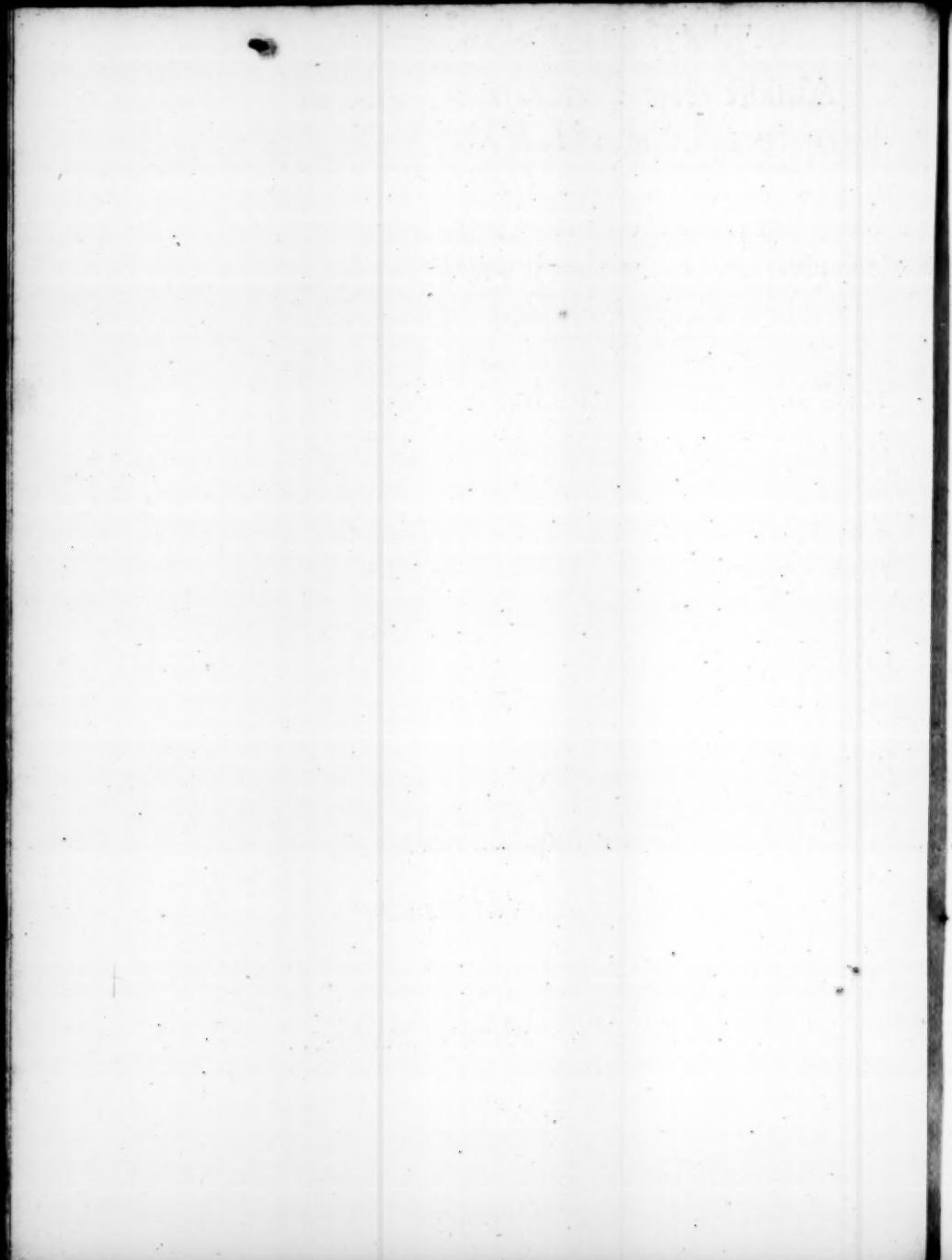
Amidst *these Protestations*, give me leave to tell Sir *ALEXANDER FRASIER*, that I am not now so esloigned from the *World*, nor so fixed on my *retirement*, as that it is *indifferent* unto me whether *He* continue *Me* a place in *His Memory*: 'Tis certain *You* afford *no room* there to what is *vulgar*, and *trivial*: yet *I* cannot but beg to be *indulged* in the *vanity* of this request: and *I* assure *You* *I* bring no *common inclinations* to serve *You*, neither would *I* by *ordinary Testimonies* express that passion wherewith *I* am,

Warwick Febr. 14.
1670.

SIR,

*Your most humble
and most devoted Servant,*

Henry Stubbe.





SIR,

IN obedience to your Commands, I have read over the Treatise of —— Thomson, concerning Blood-letting: I never underwent a more difficult task in my life: And had the *Virtuosi* imagined with what reluctance and constraint I should undertake such a work, they would have abandoned all their other stratagems, and imposed on me this penance, as the most severe. I profess, I am not so understanding in the *Greek, Latine, or English Tongues*, as to comprehend his *Language*: yet I think I am not so much in *default* therein as *He*, who, according to the peculiar fate of the modern *Baconists*, hath either *out-lived his Learning*, or never was endued with any. That *He* should pretend to *read*, or *understand Hippocrates*, is a *vanity* equal to that with which *Eccelius* professeth himself to be versed in the writings of *Aristotle*: and when he blames the *Method* G. T. Windic. of the Lord Bacon. p. 38. which the *Galenists* have used above this fifteen hundred years, would not one imagine that the *birth* and flourishing *renown* of *Galen* had preceded those *Centuries*: whereas you must place him in the second *Century*, during the Reign of *Marcus Aurelius, Commodus, Pertinax, and Severus*, or you will contradict the account which *Galen* Lacuna in vita Galeni. If. Vossius de Philos. c. 12. sest. 19. Suidas in voce Pater G. gives of himself, and the relations of other *Historians*: and at such time as he arose, the world was prepossessed with *Methodists* and *Empiricks*. But I wish his greatest errors

A

errors lay in his ignorance of these things. Alas ! he understands not any thing of the Rudiments of Physick ; and to inform him, one must write an entire Body of Physick. Were it not for a few hard words borrowed from *Van Helmont*, such as *Enormon*, *Arcana*, *Daumvurate*, &c. and his extravagancies about fortifying the vital spirits, ejecting the venome, or spina in diseases, and that by a diaphoresis generally, by the means of certain *Arcana*,

Let D. M. take notice here, that there private Arcana, such as the Quacks pretend unto, con- advised Pepper - drops ? 'T were strange, should one that sealing the Medicaments and others by their name published by accident in Prints, in Crollius, Schroder, and others. neither understands humane nature, nor the types, times, motions, and terminations of diseases, should ever (except do any good ; not that He should frequently do harm. But a fool may commit more faults than a wiser man than I, and of more leisure, can discover. I shall confine my present address to the point of *Phlebotomy* ; where-

In his Preface to the Reader, he saies, He doubts not, the time will come, yea, is not far off, that a Phlebotomist (as he hath characterized him) will be looked upon as little better than a Broachotomist, a day-throat.

Some years since, I designed to write an enquiry into the original, and nature of the Blood, and the usefulness of *Phlebotomy* in several diseases : in which, abstracting from the single opinions of Writers, I purposed to illustrate each point by practical principles, and ample Histories, out of intelligent and creditable Physicians, concerning the bad or good success with which Blood hath been let in diseases, according to the several Ages of the diseased, and the nature of their maladies, whether Epidemical,

mical, Sporadical, or of a less general constitution. But the Controversies I have been involved in, have so incumbered me, that I have not been able to pursue those intentions, nor have I any preparations almost in order thereunto, as yet digested into writing. But this Antagonist requires not all my strength; a less powerful Assault will suffice to overthrow Him.

'Tis not any kindness to him, but indulgence to my self, that I do not pursue all his errors, even in the generation of blood; or go about to convince him of the several mistakes which he is fallen into, for want of reading more modern writers, and their discoveries. Beyond Helmont, or in contradiction to him, the man neither does, nor will understand any thing: And even in that Author he seems so little conversant, that he sometimes mistakes him, and generally represents things with more obscurity and intricacy, than they are expressed in the originals of Van Helmont or Grembs.

Of those that have opposed Phlebotomy, these are not the first, which this Century hath produced: long ago Galen complained of Erafistratus, (the sisters son of Aristotele) that he was ~~anæsthetic~~, ^{Galen. de Sangu. miss.} fearful to let his Patients _{c. 2.} blood; before him, Chrysippus Cnidius, Medius and Aristogenes, did reject the usage: Also Apemantes, together with Strato, are recorded to have contradicted the practice of Phlebotomy, by Arguments: The strength of that faction in Physick, was such at Rome, in those times, that Galen spent several books against the followers of Erafistratus upon this subject. But above all that ever intermedled, I will give this character to — Thomson, that never did any presume more upon so weak grounds: Nor ever was Confidence so poorly mounted, and so pittifullly be-jaded.

After much trouble and enquiry, the sum of all, he says, in this case, amounts to this.

The promiscuous mass of Blood which flows in the Veins and Arteries, he divides into three parts: the one

is called by him the *Latex*; the second *Cruor*; the third *Sanguis*, or most properly *Blood*.

G. 25. of the
Blood, p. 19,
20.

The *Latex*, so called by *Helmont*, by some *Lympha*, by the Greeks *πάρενθητικός*, is a *diaphanous clear liquor*, *ἀναφέρεται*, fabricated in the second digestion, by virtue of a ferment there residing. It is the inseparable companion of the *Blood*, and closely perambulates with it through all the wandering *Maandrous pipes* in this *Microcosme*. It is the matter of *Urine*, and *Sweat*, *Spittle*, &c. and renders several other considerable services to the body.

Ibid. p. 22.

The goodness or pravity of the *Latex*, depends much upon the *blood*, as it is constituted; for, albeit it is no essential part thereof, yet is it altered for better or worse, according to the channels it passeth through, the lodging it taketh up, and the condition of its associate: notwithstanding that it may be sometimes impaired in its due excellency, and the *blood* withall remain very pure and sincere.

Ibid. p. 1, 2;
and 34.

The second part is called *Cruor*, from *κρύος*, i. e. *Crudas concretus*: It is the more crude impure part of the *blood*; the purer part of the *chyle* being digested into a saline juyce, is carried into the milky vessels, and veins, and mingling at last with that ruddy liquor, is called *Cruor*, and at last becomes perfect *blood*. It undergoes manifold guises, and is often the subject matter of a multitude of diseases, being sometimes changed into an *Ichor*, *Tabum*, or *Sanies*.

Ibid. p. 2.

The third part is properly called *Sanguis*, or *Blood*, *κόπωσις*, it is a most pure sweet *Homogeneous*, *Balsamic*, *Vital juyce*. (for the most part of a bright Red, or Reddish colour) made by the *Archeus*, by virtue of ferments implanted in the ventricles of the heart, lungs, veins and arteries, causing a formal transmutation of the *Clype*, or milky substance into this *sanguineous* liquor, ordained to be the seat of *Life*, and the principal matter for *sense*, *motion*, *nutrition*, *accretion*, and *generation*.

It is for good reason called *Balsamum, seu Condimentum totius corporis*, forasmuch as it hath a sanative power, sweetly uniting all the parts of the body, for the conspira-

*Some peoples
flesh will not
heal upon the
least cut, notwithstanding
this Sanative quality in the Blood.*

It is a great preservative against putrefaction, as long as it remains in its integrity, for consisting of many saline particles, it seasoneth whatsoever it toucheth with a pleasing savor.

*It are several
glandules
finer to taste,
than the san-
guineous, fleshy parts of Animals.*

It is the proper habitation of the vital spirit, the immediate instrument of the soul, in which it shines, displaying its radiant beams every way, that sensation, motion, nutrition, and all other functions may be exquisitely performed.

*What becomes
of the duum-
virate then?
And may I not
ask, if the
Spirits be not
the immediate Instruments of the Soul?*

God and Nature never intended other, then that the blood should be *Homogeneous*, pure, plain, symbolical with that single principle of the Universe. Now these Peripatetick Philosophers deliver to the world, that the contexture of this vital juice is made up of *Choler, Phlegm, Melancholy, and Blood*, which united, produce this compounded body, which we call *Sanguis*: How grossly erroneous and dangerous this Tenet is, most Learned Helmont hath made evident.

*Ibid. p. 5.
if God and
Nature intent-
ed the blood for
so pure and ho-
mogeneous a
liquor; why
did they
compound m.m.
with such a
fabrick, that
the chyle (se-
veral ways tim-
gid) should mix with it in the sub-clavian veins?*

Wherefore we conclude with that noble Philosopher, that Bloud is an *Univocal substance*, divisible only by some external accidental means, as the Air, or Fire, which cause a various texture, and different position of its Atomes, whereby it seems to consist of parts which are not really inherent in it, as is manifest in its degeneration from its

its native colour, savor, consistence, and goodness, which it had before it became corrupt in the pottinger, or underwent the torture of fire. Both of which do strangely larvate and disguise the paniceous Balsome, giving occasion to the Galenists to frame their four fictitious humours, nowhere really existent.

This being the foundation of all his declamations against Phlebotomy, before I proceed any farther, it may seem requisite that I should make some Animadversions thereon;

I might take much notice of, and display his errors, as to what he sayes, that the *Latex* is by the Greeks called *πυρεψ*: this is the first time I ever read it called so: the usual terms being *οἶφες*, *ιχωρ*, and *ὑγεστίν*. The notion (whatever Helmont say) is not new at all: an hundred Galenists have mentioned and treated of it, as the vehicle of the bloud and nourishment. But that *cruor* should come from *χύζει*, *crundus concretus*, is an opinion singular to the Baconian Philosopher. That *χύζει* doth signify cold, I know well: and that *cruor* properly signifies the the blend of dead people, or the mortified bloud issuing from putrefied wounds, I no less understand; though Authors frequently confound it with *Sanguis*; But that his *Latex*, and the *Lympha*, so called by moderns, are the same, is news: for, it is not held that the *Lympha*, in its peculiar form, was pre-existent in the Arteries, and, as Glisson, de he-such, did accompany the Blood through the Meandrous pate, c. 45. Charleton. Oe-pipe, but is generated as it is discharged into the Lymphæducts, and from them is re-mixed with the bloud: And, if it were, yet would not the definition of this *Latex* agree with it: for the *Lympha* is no inseparable companion of the bloud; as appears by its peculiar vessels: it is seldom a diaphanous clear liquor, being commonly tinged with several colours, oftentimes whitish, sometimes yellow, or,

a Glisson. Anat. hepatis. c. 45.
Quippe tota hæc Lympha, nisi experientia, compertum est, densior, minisque pellucens, & interdum lassis instar albescenti, aliquando sufflava, & nonnunquam tonit & carnis simili. Vide Charlton, ubi supra.

as it were stained with blood. And whereas this Latex is devoid of all sensible qualities, those who have experienced the Lympha, do not find any such thing, but a variety of tafts: Nor is it true that the Serum which accompanies the Bloud is such a Latex as our Helmontian describes; it being never (to my taste) free from a salsuginous savor, (though it retain that with a great Latitude), nor devoid of colour, so as to be clear and diaphanous: and 'tis very seldom seen, that the said Serum will not ^b coagulate, unless preternaturally upon a gentle fire: so that it is no more to be termed a Latex, than the whites of eggs beaten to the like fluidity: In like manner that in the Lymphaducts will ^c coagulate, as Bartholin observes, and others.

^b Centies facta
experimento,
vadi semper se-
rum ipsum non
modo leviter
increassari, sed
agglutinari si-
signe membra-
num. H. Barbat. diff. de sangu. & siero. pag. 16. c Th. Bartholin. Spicileg. p. 71. M. Bag-
dav. apolog. adv. O. Rudbek. lcc. 116.

As for the Crux, that there are gradations of the Blood, as to its crudity and impurity, is no doubt amongst the Galenists: and that it may oftentimes transcend the state of due maturation, and so become degenerate, is as easily granted, as that it should come short of its desired perfection; and when this Blood degenerates any way into a Tabum, or fonsius matter, I must tell him, that Aristotle and his followers acquainted us therewith, before that Helmont was ever heard of, whose Crux bred <sup>Vide Hofman
de Ichoribus.</sup> in the Liver, and distinct from the Blood, impregnated ^{lcc. 71, &c.} with vitality, is such a piece of non-sense, as ought not to be mentioned in this Age, but to Baconian Philosophers, who, not only connive at, but applaud any Hypothesis.

Concerning the Blood, when I read the Elogies he bestowes upon it, as the Seat of the Soul, by which sensation, motion, nutrition, generation, are performed; I thought upon the opinion of Aristotle, and his zealous sectators amongst the Physicians, who have denied all Animal spirits, fixed the principality of the Members in the Heart,

and

and from thence derived even the nerves. If O. T. will defend the generality of his Assertion, I assure him that Hofman, Van der Linden, and Harvey, will be more serviceable to him than Van Helmont : But this consideration hath little influence upon the present Controversie : that which follows hath nothing of Truth in it : that the Bloud is an Homogeneous, pure body : for nothing homogeneous can ferment : But it is most evident, that the blood is in a perpetual fermentation, and that it is such a liquor, as is constantly generating, constantly depurating, and constantly expending it self : so that nought but Imagination can represent unto us such a thing as pure blood: and I hope the specious pretences of a Real Philosophy, will not terminate in Speculation and Phansie. When the blood either naturally issues forth, or upon incision of a vein, it representeth unto us different Phænomena oftentimes in several porringers, and in the same porringer different substances ; sometimes a supernatant gelatine, and mucus, a coagulated mass, consisting of thinner, and a less fibrous crimson, and a grosser, and more blackish-red body, interwoven with fibres (both which may be washed away from the fibrous part) and a serous, fluid liquor, sometimes limpid, sometimes of a bilious, or other colour, in which the concreted mass of blood doth float : All these, with other Phænomena, (in a great variety) are to be seen in the aforesaid cases: and even the Blood of the same body, as it issues from several veins, furnisheth us with matter for different observations. Now in a liquor so pure and Homogeneous, as our Disciple of the Lord Bacon imagineth the Bloud to be, though we should suppose the Air to corrupt it, as it issues into, and settles in the porringer, yet would the corruption thereof be uniform: which, seeing it is not, I take it for demonstrated, that it is Heterogeneous : And that being granted, it matters not whether the four humours (so frequently mentioned by d.m. medic. de Physicians) be actually or potentially in the blood : Whether they be the constitutive parts thereof, or whether it

Dr. Willis de
serment. c. 6.
Kerger. de fer-
mentat. sect. 1.
c. 11.

E venis capitis &
unquam ta-
lem mucagi-
nem afflu-
rem vidimus,
crebrus & ve-
nis brachii, &
pedum autem
venis creberi-
us, & in ma-
jori epis.
Plumbus fun-
dum. medic. de P.
sua cordis.
p. 259

be

be one entire Ligar, made up of Heterogeneous parts, which, in the bodies of sundry individuals, produceth such Phænoīena, as if it did consist of such Alimentary Hu-mours, and degenerates occasionally into those others that are Excrementitious: In order to our practise, 'tis all one for it to be so, and to appear so: and our documents are nevertheless useful, though they seem not rigorously true. The Galenical Physicians are not herein agreed; nor is any man confined in his sentiments, about this sub-jett: Tis malapertness in this Bacon-faced generation, to dispute these points, since the phenomena of diseases, and the operation of Medicaments doth correspond with this Hypothesis, and are as adequate thereunto, as humane na-ture (which is not capable of an exact knowledge, and ought to acquiesce in what is useful) can adjust them. Nor is it any more of disparagement to Phyfick, that should be built upon so tottering a foundation, then that the Temple of Diana, one of the wonders of the world, should be situated upon a bog.

Hitherto I have examined his preliminary discourse of the Bloud, and its concomitant Latex, and have made it evident, that this person understands not what he asserts, nor what he rejects: and indeed such is his ignorance, that after so much study, "having rolled every stone, and searched out every scruple, to be informed concerning the truth of the Galenick, and Helmontian way, p. 87. he understands neither Nature nor the Galenists, nor Van Helmont. I now come to examine his Arguments against Phlebotomy, which, if they be so weak and inconsiderable, as not to justifie so extraordinary an impudence, let him blame himself not me, who do not intend (if possible, in such a confused, obscure Treatise) to injure him in the recital, which calls a need of noлагne, and which is to be done by a plain and direct evidence, of which

His first Argument against Phlebotomy.

"Had they but considered how this vital moisture, p. 6, 7. [the Blood] ebbs and flows in goodness and pravity,

upon slight accidental occasions of any exorbitant passions, as fear, sorrow, anger, &c. the manifold impressions of the ambient Air, ill Diet, immoderate exercise, divers excessive evacuations, and long retention of any excrement : did they rightly understand how blood, like Mercury, may be polymorphised, and changed into different shapes, and at length be retroduced to the same state and condition, as when it was in its primitive essence : certainly then these Dogmatists would never be so forward to pierce poor man's skin, rashly let out and throw away that substantial support of life, foolishly and falsely apprehending that to be totally corrupt, and deprived of what it was in its former being, and in no wise capable to be retrograde, and return to it self again ; because it seems to their eyes when it appears abroad discoloured, invested with a contemptible apparel, as yellow, green, white, blue, &c. — — — supposing it to be corrupt, and so unsitting to be retained within the verge of life. It is no such matter, I can maintain : for this superficial alteration proceeds from the Air, spoiling it of its pristine goodness, not that it was really corrupted in the vein. For the demonstration of this, I will undertake, upon forfeiture of a great penalty, to open the vein of a Cacochymic body, emitting about two or three ounces of the visible aforesaid degenerate matter, then stopping the Orifice, make use of proper remedies to this individual, whose habit I doubt not so to alter in the space of about a fortnight, that no such putrid matter as they improperly call it, shall be found in any vein whatsoever opened ; which may fully satisfie any sober enquirer after truth, that the corruption was never really existent in that, whilst it was in the vein, which, in so short a time is thus redintegrated : for Corruption being an absolute privation of that formal essence of the thing : and sith there is no retrogradation in this kind, that an Eos losing its form by dissolution, should assume it again, Nam à privatione ad habitum

' habitum non datur regressus : it infallibly follows, that
 ' this juice thus restored, Technicess, by Art, was never
 ' truly corrupted, as they would have it. Hence it fol-
 ' lows, that the fair pretence of the Galenists, that the
 ' juice drawn out of the Patient, forasmuch as it is corrupt
 ' in the porringer, is happily discharged : appears a mere
 ' imposture, contrived on purpose to stop the mouth of
 ' those who scruple and question Phlebotomy.

This is the principal Argument which he hath against Phlebotomy ; yet doth he so handle it, as that the only evidence it carries with it, is, that the Author is a most illiterate person.

It is very ignorantly done of him, to make as if the Galenists in general did let their Patients blood, merely for a Cacochymy, or depravation of the blood, as if it were a Rule amongst them, that Whensoever the blood is de-
 praved, vitiated, and corrupted, it ought to be excreted by Phlebotomy. Whereas there is not any least amongst them more general, than that Cacochymical bodies re-
 quire purging ; the Plethora, or such as are in dan-
 ger to be surcharged with excess of blood, require Phlebotomy ; nor do they recede from this resolution, but in urgent cases, and with deliberation : and many are so
 cautious herein, that if the blood appear in the porringer to be of an evil colour, and very corrupt, they enjoy us to stop the vein presently, and not continue or repeat the eva-
 cuation. I shall set down the words of *Florinus Augenius*.
V. Heiss me-
thod-medend.
I. 2. c. 4.

Hic vulgarium Medicorum error detegendus est. *Horat. Augen.*
Putant quo sanguis impurior fuerit, & à sua na-
tura magis alienus, eo plus detrahendum, & in
hoc mirifice fibi placent, in vulgusque propo-
nant admodum utilem factam fuisse vacuationem,
quod corruptissimum pestinumque sanguinem va-
caverint. Tu vero cui in animo est humano ge-
neri

neri prodeesse, & Medicinam inculpate exercere,
contra facies; quanto enim magis sanguinem vi-
debis à propria natura discedere, tanto minorem
quantitatem vacuabis, & aliquando (nisi co-
pia urgeat cacoehymie permista) à vena-
sectione profus abstineto. Nor is this the judgment
of a single writer; hundreds are of the same opinion: the
Learned L. Septalius Animaadv. Medic. l. 4. sect. 2. is of
the same judgment. *In sanguine detrahendo cavendum*
maxime, ne, quanto puriorum, & deterioris conditionis
sanguinem à vena profluere viderimus, tanto majorem
quantitatem effluere sinamus: quod plurimos facere observa-
mus: tali enim existente sanguine, & pauciores subesse
spiritus constat, & vires facilissime solent collabescere. Even
Galen and Avisen are alledged for it: And it ought with
less reason to be objected in England, because our Physi-
cians generally (as likewise are the Germans) seem
not so prodigal of the blood of their Patients, as to
make a Cacoehymie, much less, a ~~prodigia~~, or total corruption
of the sanguineous mass to be the proper indication for
bleeding: nay, most that hold Blood-letting in great dis-
eases arising from Cacoehymie, to be a necessary remedy,
(not indicated by the depravation of the blood, but violence
of the disease;) they are cautious in the quantity which
they take away, because in such an habit of body the
strength of the patient is seldom great enough to bear much.

Alex. Massaria Apolog. l. II. Out of which it is manifest, that what he sayes about
the impurity of the blood in the porringer, that 'tis an ex-
cuse or imposture used by the Galenists in defence of Phle-
botomy: it is a fiction of his own, not made use of directly
by any but the followers of Botallus: the rest will give
him other reasons for their practice, than a Cacoehymie
alone, or total corruption of the mass of blood.

A farther mistake it is in him, that he represents the
Galenists as such purblind fellows, that should not know
but that each corruption of the blood is incorrigible, and there-

Petrus Castel.
de abusu Phle-
bot. pag. 73.

Apolo-
g. l. II. c. 14.

therefore let it out. It is true, that we do hold, that it is possible for the blood to be so vitiated, as to be incorrigible, and that one may as soon hope to see the regres from a total privation, as it restored. This hath been observed in pestilential diseases sometimes, and in sphaeculated parts: and perhaps I may be allowed to reckon as such, the blood of that person in *Fernelius*, which was universally coagulated in the veins; so as to be taken out as 'twere branches Fernel. Physio-
log. l. 6. c. 7. of coral: And that woman's in the observations of *Pache-*
guus, whose blood in a continual fever did issue out, upon River. obl.
communicate
d Pachequo,
obs. 46. Phlebotomy, as cold as Ice, or Snow: the like to which, in the spotted fever is taken notice of, as a fatal prognostick by *Petrus a Castro*. If *Tempius* give me leave, I would reckon in putrid fevers, that blood to be incorrigibly depraved, which doth not coagulate, and is destitute of its fibres, since *Fernelius* and others esteem of such as an evi-
dent testimony of the highest putrefaction. It is also true, Fernel. Ther-
apeut. Univ.
l. 2. c. 17. that we do hold, that where diseases are ordinarily, or *Scurv. de* frequently curable, yet by accident from the idio-syncriasis febr. l. 2. c. 1. of the patient, or some other intervening cause, the blood may be continued in such a vitiated estate, as to be incorrigibly corrupted, and yet its essential form not lost; as in case of *Cancers*, *Hypochondriacal* and *Scorbutical distempers*, *Scirrhosities of the Liver, Spleen, and Mesentery, Lepro-*
sies, knotted Gout, calculous indispositions, &c. I might mention other cases, but they relate not to the present controverse, and I have already said enough to shew the ignorance of this Baconist. To come nearer to the main matter; It is true, that we do hold, that in many distempers, as in the *Scurvy, putrid Fever*, and some others, the mass of blood is so putrified and corrupted, that even that which is termed more stricktly Blood, is depraved sundry wayes: for, if the vessels that generate and convey the *Chyle*, and the *Chyle* it self be corrupt-
ed, 'tis impossible but that which is produced and supplied daily out of the *Chyle*, should participate of its pravity, and so much the more in that they flow inti-
mately commixed in the same Arteries and Veins: But that

that in such cases we hold the Blood to be so depraved, as to have lost its formal essence totally and irrecoverably, is most notoriously false: and any man may see hence, that this *Ignoramus* understands not the *Galenical* way, but deserted it, before he had acquainted himself therewith.

We do hold that the blood and associated humours may come to a partial putrefaction, and yet be recovered again: and 'tis this recovery and redintegration that we design by our practice, and if we cannot effect it totally, yet that we aim at, is, to concoct the several humours, so that what there is of them that is alimentary, and agreeable to nature, may be mitified and retained, and the rest so digested, as that it may be with ease and safety ejected the body, and so the *Mass of blood* regain its former lustre and amicableness:

This being the grand intention of the received Method of *Physick*, 'tis one thing to debate whether blood-letting, practiced according to Art, (for we are not otherwise concerned in the Quarrel) be a suitable proper means to achieve our purposes? And another, to say, that we pierce poor mans skin, and rashly throw away the support of life, out of a vain apprehension, that it is totally corrupt, and depraved of its former being, and no wise capable of being retrograde. This cannot be said without an apparent injury unto us: We know the variety and fallaciousness of colours, and by our rules, can well conjecture how far the Humours are vitiated, what may be concocted in order to the nutriment and benefit of nature, and what matured to a convenient ejection; And we do utterly deny the consequence of this Argument, though we grant the Assumption: *Viz.*

If the blood be of such a nature that it may be recovered to its pristine colour and vigour, without Phlebotomy, then ought not men to use Phlebotomy.

But the Blood, like Mercury, may be polymorphised and changed into divers shapes, and at length be reduced to the same state and condition, as when it was in its primitive essence. Ergo.

The

*This he might
have learned
from Galen,
in his Comment
upon Aphor.
17. l. 2.*

The Assumption I can grant, but not where such a practitioner as G. T. is made use of. I doubt not but the followers of Erasistratus could effect it by their Fastings, Frictions, Bathes, and other remedies used by such judicious men: I grant, that robust nature doth daily produce such rectifications of the blood, in many that make no use of a Physician: But as willing as I am to gratifie my Adversary, I should not yield thus much to Helmont, or such as practice with Arcana, and commanding Medicaments.

To the sequel of the Major, I reply, that albeit that Nature may oftentimes do miracles, yet are not miracles to be presumed upon: It is possible for the sick to recover without any means, yet are means to be used; the omission thereof is imprudent, and criminal, but the use thereof (if the Physician be knowing and discreet) safe, and as secure as the condition of our mortality permits any thing to be: A few dayes or hours of the encreasing distemper will more impair the strength of the sick, than the loss of a little blood, which, in the condition it is, adds not to the vigour or nutriment of the diseased; the damage will be easily repaired, and perhaps all this nicely will be to no purpose, for, after a multitude of vexations (sometimes dangerous) symptoms, Nature may produce in the almost exhausted patient, a violent eruption of blood, and thereby terminate that malady which might have been alleviated, or allayed before. Fluxus sanguinis largi ex naribus solvunt multa, Hippocr. Epid. ut Heragoræ. Non agnoscebant medici. The Blood for sick. vol. 2.

which they are so sollicitous, Nature her self is not so careful to preserve it, but that frequently in the beginning and progress of diseases, she alleviates her self by discharging it out of the nose, and that in greater quantities of more florid blood than the Lancet would take away: This evacuation is of all the most facile, the most easie to be regulated by the Physician (since he can stop it when he will) and the most innocent in the beginning and increment of diseases.

"Sax.

*Fenius de signis
medicis, par. 2.
c. 1. secc. 8. &
Francisc. Ru-
bus Nocturni
exercit. in Hi-
stor. Medic.
exercit. 5. p. 98,
99, 100.*

*Prosper Alpin.
de præfig. vita
& morte, l. 7.
c. 2.*

"Sanguinis eruptiones & hæmorrhagiæ hanc habent
prærogativam præ aliis evacuationibus, quod ipsæ eti-
am in principio & in aliis temporibus, etiam si non
adsint signa bonaæ coctionis, possunt esse magis utiles,
exercit. in Hi-
stor. Medic.
exercit. 5. p. 98,
99, 100.

"quam aliaæ evacuationes, quaæ sere semper sunt malæ, ex
eo quod sanguis semper per apertas partes fluunt, &
semper libere & commodum exire possit, nec eget præ-
paratione & concoctione, sicut alii humores, qui per
alias evacuationes excerni debent. — — In evacuati-
one, quaæ per venas apertas fit, nullam merito expecta-
mus concoctionem; & hinc Medici secta vena in mor-
bis acutis in principio mitunt sanguinem; hinc & spon-
tinæ sanguinis vacuationes bonaæ erunt: Addatis, san-
guinis eruptiones copiosas, nedum utiles fieri, propte-
rea quod sanguis malus una excernatur, sed etiam quo-
niam ejusdem sanguinis evacuatio universum corpus re-
frigerat, caloremque transpirabilem, & corpus diffla-
bile facit. Quare hac ratione excretiones sanguinis op-
timæ erunt, quaæ in statu apparent, plene cocto existen-
te morbo, sed neque ea, quaæ cum cruditatis signis fiunt,
erunt plane abhorrendæ & timidæ. — — In fine,
that prudence which obligeth us to self-preservation, obli-
geth us to the most probable courses in order therunto: and
what can seem more rational, than that which NATURE
directs us unto, that whereby she so happily mitigates and
concludes diseases, that which so many Ages have recom-
mended unto us, and in the use whereof, not only GREECE
and ROME, but all Nations universally, as well barbarous
as Civil are agreed on?

And thus much shall suffice for an answer to his first
Argument: I now proceed to the second.

p. 52.
"The Blood is the support of Life; and we are taught
by Divine Writ, that in the Blood, that *Spiritus rubens*
is Life.

I answer, That the *Scripture*, in the places aimed at,
cannot be understood literally, and properly: for then the
words

words infer, that the *Beasts have no other soul than the blood*, Deut. 12. 23. *only be sure that thou eat not the blood; for the blood is the soul, and thou mayest not eat the soul with the flesh.* Thus it runs in the *Original*, though our *Translation* renders it *Life*. And so Levit. 17, 10, 14. in which last place 'tis said, that *the blood is the soul of all flesh*. Nay, in *Genesis* c. 9. v. 5. Concerning man, 'tis said, *The blood of your souls will I require.* It remains then, that deserting the *literal sense*, we fly to some that is *Analogical*: And hence it is that most *Divines* take the word *vvv* for *Life*. Thus Exod. 21. 23. *Thou shalt give life for life*, is not incongruously rendered instead of *Thou shalt give soul for soul*. Thus the *Civil Lawyers* frequently stile *Loss of Life* by the phrase of *Anima amissio*. But however these passages may be *popularly current*, yet in *Philosophy* and *Physick*, when we would speak *distinguishably*, and argue *firmly*, 'tis not to be allowed of for *Truth*, that the *Blood*, or *Spiritus rubens*, (as our *Helmontian* most non-sensically terms: for, as great a *Pyrotechnist* as he would seem, 'tis past his *Art* to demonstrate, that *it is a Spirit, or Chimically to educe a Spiritus rubens out of it*) is *Life*: for *Life* is nothing else but *the union of the soul* Scaliger de subtil. exercit. *with, and its presence in the body*: or, to declare it by its 102. sect. 5. *effects*, 'tis the *conservation of all those faculties and acti-* Fernel. Physiog. *ons which are proper to the animated creature*; as *Death* is log. l. 5. c. 16. the *extinction of them*. Out of which 'tis evident, that *Blood* is no more properly called *Life*, than 'tis possible for the *Definition of Life* to be accommodated to *Blood*: that is *not at all*. But since *common discourse* doth allow us often to fix the *principal denomination* upon the *chief instruments*; and that the *Scripture* explains it self, Levit. 17. 11. and what my *Adversary* in one place calls the *LIFE*, in another, he terms it, the *principal support of Life*: let us consider how far that is *true*: That the *Blond* is not so much as a *part of the body*, (but the *Ali-* Valles. fact. *ment thereof*) is the assertion of most *Authors*; it is not p. 102. Fornel. *continuous to the rest of the body*, but *floateth as Liquor in a Physiolog. i.e.* c. 1. ves-

vessel: and in *vulgar speech*, no man takes the *loss* of *bloud* for a *mutilation*, or *dismembering*: and there are sundry *diftempers* and *phenomena*, which conclude in favour of the *spirits*, (or what is *Analogous* to them) and the *Nerves*, to assert their *pre-eminance* above the *Blood*, and its *Vessels*: and whatever may be said concerning *Ge-
neration*, (which is very *disputable*) 'tis a certain mistake in our *Helmontian*, to make the *Bloud* the *princi-
pal matter for sensation* (whereas *sanguine persons* are not the greatest *wits*, and the *senses* are most *quick* in *women* during their *lyings in*, after a great *effusion of bloud*, as also in *dying persons*) or *motion*, which is not in *paralytick members*, though the *Bloud* flow unto them con-
tinually, as it was wont before. I add, that there is not any *convincing Argument* to prove that the *Bloud* is *ani-
mated*: I confess the *conjunction* of the *soul and Body*, and *operations* consequent thereunto, are most *mysterious* unto me: and I think it no less true that *our Life is a constant
miracle*, than that we are at first *wonderfully framed*: nor can I determine what particular *use* the *soul* makes of all the *parts* and *ingredients* of our *humane bodies*: But this appears unto us *daily*, that the *conjunction* betwixt the *Soul and Bloud*, and the *dependance* of our *Life* there-
on, is not so *great*, or *intimate*, as that upon the *effusion* of a little, no, nor of a great deal of the *bloud*, Death, or any *debility*, *extraordinary* and *durable*, should ensue *un-
avoidably*: and if it happen but *sometimes*, 'tis apparent thereby, that 'tis but *accidental*, and not a proper conse-
quence of that *effect*: 'Tis manifest, that the *operations* of the *Soul* are not restrained to one determinate proportion of *bloud* in *every body*: nor to the *same* in *any*: albeit that there seem requisite in *all Animals*, that there be *some* *bloud*, or what is *equipollent* thereunto: 'Tis also mani-
fest, that this *Bloud*, (for which some are so *sollicitous*) doth continually *expend* and *waste* it self in *nutrition*, (and that even the *nourished parts* are in a *continualex-
haustion*) so that without supply, it would degenerate into.

*Plenius fun-
dam. medic.
L 2. c. 1.*

*Botanis de
sangu. mali.
c. 34.*

into choleric, (except in those miraculous fasts) and diminish to little or nothing: as appears upon great fastings, and several diseases. Tis no less manifest, that upon great evanescions of blood, by wounds, or otherwise, when the Blood hath been so exhausted, that very little can be imagined to remain, yet in a few dayes the veins and arteries do fill again, *Id ibid. c. 33.*
 and nature is so replenished and *vigorated*, that this lost ^{left. 7, 8. &} *blood* seems not only *as good*, in order to the *functions of life*, ^{c. 35.}
 but *better*, in order to *health and strength*, since the production of this last (in the end of diseases) is accompanied with *convalescence*, whereas the precedent did not hinder the indisposition.

Out of what hath been said, the Answer to this Objection is facile: viz. *The Blood is not so the seat and residence of the Soul, nor so absolutely necessary to Life* (granting all that can be desired of us) *as that some of it may not be let out, without present danger, or irreparable detriment:* so that, if the motives for Phlebotomy be cogent, or so probable, as to render the Action prudential, no difficulty can arise from this scruple. It is written in Deut. 24. 6. *No man shall take the upper or nether millstone to pledge; for he taketh a man's life [or soul] to pledge.* Here the millstone is called the *life or soul of a man*, as much, and as properly, as ever the *Blood* is anywhere else: But, though there be a prohibition for a man to deprive his poor neighbour thereof, as of the support of his *Life*, yet undoubtedly none was ever interdicted by virtue of this precept, to help the distressed *Miller* to pick and *dry* his *Mil-stones*.

His third Argument is this.

" Moreover, one would think, it should put a stop to p. 7.
 ' their prodigal, profuse bleeding, if they did but consider,
 ' with what difficulty Nature brings this Solar Liquor to
 ' perfection, how many hazards of becoming *spurious* and
 ' *abortive*, it passes through; how easily it is stained by an
 ' extraneous tincture; how often intermixed with some-

'thing allogeneous and hostile to it; how many elaborate
'circulations, digestions, and refinings it undergoes, before
'it be thoroughly animated, and made fit for the right use
'of the inamortal Soul.

One would imagine by this Objection, that the Generation of the Bloud, were as difficult a work, and required as much of sollicitude, as the Philosophers stone; and that the least error would disappoint the process, and eject the poor soul out of its tenement and mansion. But there is not any such thing; he that considers the perpetual supply of Chyle, by the Ductus Thoracicus, and with how much ease it is transformed a great part into Blood, by the similar action of that which pre-existed in the veins, (together with the concurring aid of the Heart, and sanguiferous emunctory vessels; and the previous alterations in the stomach and intestines) will imagine neither the production of Bloud, nor the reparation of it, to be so tedious and hard a matter: Nor is it true, that the Bloud is so easily stained with hostile tinctures, since it is a liquor that is in perpetual depuration, and hath the convenience of so many outlets to discharge it self by. Neither will every crudity, in the immature Chyle, or blood, render the blood unfit for the use of the immortal soul: there is extraordinary, and unimaginable difference betwixt the blood of one person and another, (as appears upon distillation, burning, and mixing it with other liquors) yet are all these within the latitude of Health, and with equal perfection, exercise the operations of Life: Nor doth every allogeneous mixture vitiate or deprave the blood; for the Chyle, Bloud, and Flesh, retain some particles of the original food taken into the stomach: hence it is, that sheep fed with pease-straw (though as fat as others) yield a flesh differently tasted from other mutton: the like is to be observed in the feeding of other Animals generally: Nor is this more evident in other Animals, than 'tis in Men; for, not to mention those Medicaments, which, by the alteration

tion they make in the *urine*, do demonstrate they have passed along, and been once mixed with the *bloud*; as *Cassia*, *Rhubarb*, *Anise-seeds*, &c. " *In fonticulis observa-*
vi, quod si precedente die aliquis allium aut cepam come-
derit, pus quod in fonticulo est adorem allii aut cepe obtine-
bat: sanguis autem qui per fonticulum expurgatur, non nisi
per venas expurgari potest; unde possumus dicere, quod
sanguis acutum adorem detinere possit. The like phenome-
non is to be observed in *wounds* and *ulcers*, which feel de-
triment, according to the various food and drink of the
patient. Nay, in *pleurisies*, and other *wounds*, it hath
been taken notice of, that the *purulent* matter hath dis-
charged it self by the *veins*, (re-mixing with the *bloud*)
into the *intestines*, and by *urine*. The *Blond* of some per-
sons in *perfect health*, hath been observed to *stink worse*
than *rotten eggs*, even as it was issuing from the *arm*,
upon *Phlebotomy*; yet when it was *cold*, it did not *stink*,
nor seemed to differ from the best *blond*, except that it
was of a more *beautiful red* than is usual. I conclude
therefore, that in this Argument many *falsities* are con-
tained, and there is nothing of such force, as to deterr a
prudent *Physician*, who understands the *rules of his Art*,
and those *cautions* which are suggested to us, in *Phleboto-*
my, to let his Patient *blond*, and emit some of this *solar*
Liquor.

His fourth Argument.

" They should never attempt, yea rather abhor, to p. 89, 90.
' enervate in the least, by the *Lancet*, the *strength*, with
' its *correlative bloud* and *spirits*, without which there is
' no hopes of attaining a desired *Cure*. For it is a most
' established verity, taught by *Hippocrates*, that *Nature*
' sunt morborum medicatrices, the most assured means of
' *sanation*, is to keep up the *vital pillars*, without which,
' all falls to *ruine*. So that *Van Helmont* is without con-
' troversie in the right, when he fayes, *utcumque rem ver-*
' *teris, ignorantiae plenum est procurata debilitatis sanare*
' *velle.*

Domin. de
Marchettis,
Anatom. c. 9.

Domin. de
Marchettis,
Anatom. c. 10.

Paracelsus
rurg. l. 16.

c. 49.
Simon Pauli
de febr. ma-
lignis sect. II.

welle. i. e. make the best you can thereof. It savours of gross ignorance, to assay to heal, by bringing one into a weak condition. And p. 84. de febr. *Satis fit, satis fit Medicis* (saith the same Author) *quod ager aliquoquin inexcusabili debilitate labescat, per morbum, medias, appetentias, inquietudines, dolores, anxietates, vigilias, sudores, &c. neque idcirco fidus auxiliator debet debilitatem addere debilitatibus; fraudulentum est sublevamen quod vena sectio affert; ejusque tam incertum est remedium quod nemo medentum hactenus ansit polliceri sanationem inde futuram.* One would think it is enough, and too much, for the poor sick man to be brought low with the disease, fasting, want of appetite, restlessness, pains, anguish, watchings, sweatings; wherefore, in such a case, whosoever is a trusty supporter, ought in no wise to add weakness to weakness: all the succour the Lan-

cet can afford is deceitful, and all the address thereby is of such uncertainty, that no Physician dare venture to make a promise of a perfect cure by this means, and to keep one from a relapse.

I must except against the authority of *Van Helmont*, in the case, as of a person whose credit is sufficiently taken off, by what I have alledged elsewhere: I must

(a) *Si ergo mei est-
rata ratione
in dico, ut
etiam, si
nisi credens,
no-
tior
moris, non
cognoscit
Medicamenta.
It is a saying in the Civil Law,
Arist. Ethic. plus valet umbra experti sensis, quam eloquentia juvenis:
l. 10. c. 9. And those Philosophers, who would, upon certain preju-
3o. Fran. Rij-
cip, tract. de dicate opinions, and pretences of reason, determine of Me-
peste.c.7. scil. dicinal cases, are exploded even by Galen: nothing is firm
17. in Physick, but what is confirmed by an happy experience:
Arist. l.8. Phyl. c.3. t. 22. & 1 de and tis an imbecillity of judgment (saith the great Stagi-
ort. & inter. rite) to desert experience, and adhere to reason. If Hel-
mont*

mon was neither conversant in the Experiments of others, nor did himself experiment the inconveniences of Phlebotomy, what doth his Assertion or Negation signify in the case? Besides, 'tis but a single testimony against the Experiments of judicious men in all Ages and Countries. As for his Reason, 'tis most infirm. We must not adde imbecillity to imbecillity: even this is notoriously false in Physick: for, by the same reason, we should not reduce them to a slender diet, no nor so much as sweat them; for after much sweating, every man feels himself weaker for the present; the same may be said of vomits and Emeto-catharties (so much commended by my Adversary) that, during their operation, they add to the imbecillity and sicknes of the Patient: upon this reason, none might sacrifice a Gangrene, cut of the sphacelated part, or make use of several vexatious operations in chirurgery. Besides, who would not allow us to create him a little trouble or weakness, (easie to be repaired) thereby to recover him from a greater evil? there are some times when the lesser of evils becomes eligible, and puts on the qualification of being Good: there are some times when we are directed to cure one distemper by introducing another. But to proceed; I do deny that Nature is debilitated by bleeding in diseases, if the rules of our Art be obserued: for, we daily see, that after bleeding, Nature doth with more ease and speed discharge her self of the disease; and usually thereupon ensues signs of concoction in the urine, a pronity to sweat, and an inclination to solubility of body, and a more strong pulse: which, as they are our daily observation, so they do demonstrate, that Nature is not weakened thereby. Heretofore it was usual, after consideration of all due circumstances, to let the sick bleed, even till be swooned away: and that with very good success, in those Fevers called οὐροχοῖς. *"Snb quo caju Hippocrates atque Fodde. Lomandi Galenus veniti non sunt, donec animus deficeret, semel us de curand febr. contine detrahere sanguinem. Quam ipsi rem ratione & experien c. 3. tia ducti tentaverunt. Profusa namque hac inanitione pri mum."*

*Steph. Roderic.
Castrens. que
ex quib. l. 4.
c. 7, 8.*

Within his opinion of J. Lommius, doth rumpit, vel biliis ubertim evenitur, vel certe copiosis Sudore uero Phlebotom. c. 4. Citemus ager, doribus corpus perfunditur, atque hinc alias protinus contum. c. 4. tингит convalescere; alias plurimum juvari. This they

practiced in the beginning of such Fevers, and the practice did so far ennoble Galen, that 'twas proverbially said of him, that *He stabbeth Fevers.* He relates of himself, that he took away at once from a Patient six pound of blood, and presently put an end to the Fever, the party not finding any diminution of his natural strength thereupon. But this kind of excessive Phlebotomy hath been long discontinued by Physicians, not that they could absolutely condemn it; but out of cautiousness, lest the ill success afterwards should be imputed unto them: yet some Countrey-surgeons do still continue it. I knew one in Warwickshire, who would, in the beginning of any Fever, bleed the Patient thirty or forty ounces, or more, in case he did not sanit: and, really, with great success in rustick bodies. A Captain in the Parliament-Army assured me, that when the spotted fever was in the Camp, their Chirurgeon did, in the beginning of the distemper, bleed them till they fainted; then put them to bed, giving them a good Cordial, so they sweat, and recovered presently. He himself was served so; the Chirurgeon bled him in the open field, the bloud fell on the ground, to the quantity (as he guessed) of a quart, when a Lipothemy approached, he put him to bed, and giving him a Cordial, he fell into a sweat, and was recovered perfectly in very few dayes. There is no doubt but the practice was justifiable in men of a convenient habit of body to bear it, and where neither the climate, (which often usus Phlebotom. times is particularly repugnant to large Phlebotomy) nor c. 5. Rollinc. mech. medic. idiosyncrasie, (which sometimes happens) or evil diet spes. c. 4. scđ. 2. preceding, or the particular malignity of the venenate dis. c. 11. ease, nor the prejudicte opinion of the people do contraindicate. It hath authority from Hippocrates, Galen, Avicenna,

^a Citemus de usus Phlebotom. Rollinc. mech. medic. idiosyncrasie, (which sometimes happens) or evil diet spes. c. 4. scđ. 2. preceding, or the particular malignity of the venenate disease, c. 11. Rollinc. ubi supra. ease, nor the prejudicte opinion of the people do contraindicate. It hath authority from Hippocrates, Galen, Avicenna,

centia, and many others : Nature doth seem to direct us
thereunto, by her own excessive evacuations in that kind,
by which diseases are frequently acted : and no eva-
cuation is to be accounted immoderate, which is bene-
ficial. By this, and expurgation, even to *Lipothymy*, in
the first beginning of several diseases, men were cured
presently, nor did the maladies proceed to those times
which in the usual method they make their progress
through. In my Exercitations against Dr. Sydenham
(as yet unfinished) I have entreated largely of the
several methods of curing, which I shall not now trans-
cribe. As for that way of bleeding which is now ge-
nerally in use (though practised with a great latitude
in several Countries, and by several Physicians in the
same Countrey) it is most manifest that if due circum-
stances be regarded, and all other medicaments dexte-
rously administered, it is so far from debilitating Na-
ture, that it adds to its strength, mitigateth the present
symptomes, prevents the violence of the future, and con-
cooldeth the disease apparently. I will not undertake to
justify the demeanour of each particular Physician, any
more than I will answer for their intellectual and skill
in Physick : It is not the reading of *Sennertus* and *Ri-
verius*, with a little knowledge of the new discoveries
in Anatomy, and a few Canting terms about Fer-
mentation, texture of bodies, or such like knick-knacks and
Conundrums of the novel Philosophers which accomplish
a man for practice : These men will never come to be
ranked with *Vallesius*, *Mercatus*, *Fernelius*, *Duretus*,
Rondeletius, *Massarius*, *Septalius*, *Claudinus*, *Crato*,
or *Rulandus*. If Experience be our Guide, let us in-
form our selves by the Histories of such as they
have given us of Epidemical and pestilential diseases,
and of particular cases, as also the cures, and follow-
ing them let us come to practise, and, not deserting
our own reason, let us be cautioned by them : These
others for want of judgment to consider each circum-

G. Fletcher's
History of
Rusis, c. 28.
p. 279.

*fianee cannot make an Experiment, or relate it: whilst they extenuate the credit of the ancient and modern Physicians that are not Innovators, (though more observing and experimental than themselves) they do it only to excuse their ignorance in that kind of Learning, and whatever they have of the Lord Bacon, they have this of the *Russe* in them, that they neither believe any thing that another man speaketh, nor speak any thing themselves worthy to be believed. For such as these, or any else that do not practise Phlebotomy according to the rules of Art, I cannot make any Apology: nor do I think that their errors ought to extend so far as to disparage all Physicians who demean themselves prudently and discretely: Notwithstanding all our care, some Patients will dye; no Physician can secure all men from what their frail condition hath subjected them unto: If our Method and Medicaments be such as the general rules of Medicine, and an Experience generally happy do warrant, 'tis as much as can be expected from us; and the Imperial Laws allow of this defence, though they punish the immethodical and vovel Experimentators, and the Ignorant. *Sicut Medico imputari eventus mortalitatis non debet, ita quod per imperitiam commisit, imputari ei debet: pretextu enim humana fragilitas delictum decipientis in periculo hominis innoxium esse non debet.**

To conclude this Argument, I say, that although it often happens that diseases are cured by sole Phlebotomy: *Evenit ut sapient missio sanguinis sola curacionem perficiat*—*Misso sanguine sepe sponte naturae expurgatur corpus alii profluvio, vomitu, aut sudore succedente*—Yet no wise Artist will rely upon that alone, but with the addition of other auxiliary medicaments: Herein Spain and France are pretty well agreed: And as no wise man will undertake to cure by bleeding alone; so it is most foolishly done of our Holmontian to demand, or expect it, as he doth here.

Vide Riolan,
de circulat.
Sanguin. c. xx.
Vallis. meth,
medend. l. 4.
c. 2.

B. Zocchian
Qu. Medico.
legal: 1. 9.
consil. 40.

Vide I. Franc.
Ripio tract.
de peste, c. 7.
§. 54, 65, 78,
104.

Vallis. Meth.
Med. l. 2. c. 3.

I come now to his fifth Argument.

" The means to let out *bad blood* without re-^{Pag. 105, 106,}
moving the *efficient cause* thereof, is no *direct method*
of healing.

" Now *Phlebotomy* lets out *bad blood* without re-
moving the *efficient cause* thereof. Ergo, *Phlebotomy*
is no *direct Method* of healing.

" The *Major* is proved thus: Whatsoever suffers
the cause to remain, can never remove the effect:
For *manente causa manet effectus*.

" Now *Phlebotomy* suffers the *cause* to remain, Ergo,
it can never remove the effect.

" The *Minor* is made good by *frequent experience*:
If the *cause* of *bad blood* were *cut off*, the *Feaver* or
scorbute depending (according to Dr. *Willis*) upon
the degeneration, *Sal* and *Sulph.* therein, would
quickly cease: but we plainly see the contrary; for
after the veins are much depleted, the disease be-
comes more truculent, and oftentimes mortal; which
could never be if this depraved blood were any other
than a product or an effect of an essential morbidick
cause. The same agent which in sanity sanguifies
regularly without any considerable defecction, in sick-
ness becomes exorbitant, sending out a vicious juyce
into all parts: be it *good* or *bad*, it still springs from
a root, which continually feeds the branches: so that
it cannot be other than great folly and wrong to the
Patient, to let out that *juyce*, though it seem never
so corrupt, when another of the *like condition* must
needs enter into its place, derived from the *shop* the
duumvirate, where it first receives a previous rudi-
ment, which ought in all reason rather to be reform-
ed, than to give vent to those easily evanid particles
inseparably joyned with this *ruddy liquor*, how ill so-
ever represented. If all contained in the *reins*

We should
rather have
regarded the
second then
fifth diges-
tion.

‘ (supposed to be corrupt) were discharged , yet as
‘ long as the ferment principally of the first and sixth
‘ digestion deviate from their right scope , there would
‘ in a short space be a succedaneous repletion of a mat-
‘ ter equally contemptible , yea worse , in respect of an
‘ enervation of strength , than before .

This Argument , though our Helmontian rely so much
upon it , is a pure Paralogisme .

First , He supposeth that we use Phlebotomy in all
diseases , as a direct method of healing : which is not
true , except in some maladies , as Apoplexies , Squinancies ,
Hæmorrhagies or great eruptions of blood , some Atro-
phies , and sometimes in Feavers : in which tis fre-
quent with us , to rely solely or principally upon Phle-
botomy : yet even here we would think it very impre-
per to admit of our Phlebotomy to be stiled our direct
Method of curing , because it is but a part of our
Method , which will include , if not some other prescrip-
tions , yet at least ~~hypet~~ . In many cases we use Phlebo-
tomy as one part of our Method , but not as the princi-
pal : as when we use it antecedently to other remedies
Pharmaceutical and dietetical , to prepare way for , or
facilitate their happy operation . I am not now to write
Institutions in Physick for the documentising of this
Disciple of my Lord Bacon , tis enough that he may
learn any where almost (as in Vallesius , Mercatus ,
Claudinus , and Plempius) that we propose more
than one scope to our selves in Blood-letting ; neither is
it ever (except in diseases arising from a partial or
total Plethora) our direct method of healing : If it be
but a part and necessary or useful part thereof , we are
sufficiently justified . Thus his Major is enervated :
for if he would have opposed the modern practise , he
ought to have urged it thus .

‘ ‘ The means used to let out bad blood without
‘ removing the effient cause thereof , is no direct Me-
‘ thod

method of healing, nor an useful or necessary part thereof.

This is manifestly *false*, as I shall shew anon. As to his *Minor*, That Phlebotomy lets out bad blood without removing the efficient cause thereof. This would the *Ancients* deny, who bled their Patients in many cases until they swooned or fainted, with great success: and we must say it is not *absolutely true*, there being no *Practitioner* (I believe) but hath seen some cases in which sole Phlebotomy hath effected the cure: he may see many Instances of this in *Eotallus*, and that in diseases where the body was undoubtedly *cacochymical*: I have seen *Agues tertian* and *anomalous* perfectly cured with once bleeding in women with child: and in children I have seen some *Atrophies* so cured, that the principal cause of their recovery was to be attributed to their *Bleeding*: the like I have observed in several *Chronical* diseases, even in *inveterate quartanes*: as also others have done: nor is there any thing more common almost in our *Cases*, than the relation of several diseases absolutely cured by single Phlebotomy; which I shall not transcribe here, but in my large discourse of *Phlebotomy* (in *Latine*) I intend to represent all such cases at large, with their circumstances, and the History of *Phlebotomy* with all that variety of success, which judicious Practitioners relate of it in several diseases, and persons. I add now, that *No man can be an accomplished practitioner who is not versed in the History of Diseases, and particular cures*: for the general rules and directions make no more a *Physician*, than such a knowledge in *Law* would do a *Lawyer*; the res judicata import more with us than they do in *Law cases*; and as *Reports of the Judges* in special cases must be known by a compleat *Lawyer*, so must our *Book-cases* be our presidents, and regulate our practise. *Duobus enim tanquam cruribus innititur Medicina, neque solis theoreticis rationibus contenta, in-*

*Bruno Seidæ
liss de morb.
incurab.*

super p. 57.

*super etiam practicas experientias particularium requirit,
& indefessam ad singulos casus intentionem.*

Thus is his *Minor* false, as was his other Proposition: and it should have run thus. **But Phlebotomy lets out the bad blood without removing the efficient cause thereof, or conducting thereunto.**

But he proceeds to defend the *Minor* thus. *If the Cause of bad blood were removed, then would the effect cease: but oftentimes we see that notwithstanding such a depletion the disease continues, and if it be not mortal, yet it becomes more truculent.* Here he commits the same error that before, expecting a greater effect from Phlebotomy than we propose generally to our selves in it: we do it sometimes for revulsion of the matter flowing to any part, as in some Pleurisies, Squinancies, the Colick Bilious, and Rheumatismes, &c. wherein we never rely solely upon bleeding, and though oftentimes the effect transcend our expectation, yet do we not presume upon it. Sometimes we let blood for prevention of future diseases, as in great contusions and wounds: Sometimes we let blood only to prepare way for future Pharmacy, " *Ita plerumque in febribus mit-
medend. l. 2. c. 2.* titur sanguis, qui non superat naturalem mensuram, ne-
que simpliciter, neque in hoc homine, sed quia nisi mit-
tatur, ob febrilem calorem, qui adeat, & succorum
putrescentium missionem, corrumperetur, ac fortasse
maligne; & cutis rarefactioni, & ventilationi, &
vasorum relaxationi ad futuram expurgationem ne-
cessaria, impedimento esset. Itaque mittitur, non quia
multa subest copia, sed quia ea quae subest, tunc est in-
utilis, & noxia, ac proinde, facultate ferente deponen-
da, et si causa morbi non inclinet ad ideam sanguinis,
modo non ab ea plurimum evariet, i. e. Thus in fea-
vers we usually let blood, not that the blood abounds
above its due proportion, either in general, or in refe-
rence to this or that individual; but because the blood
which flows in the veins is infected with a seavourish
heat,

heat, and would be corrupted thereupon, and by reason of the *intermixed humours* now inclined to *putrefaction*, and that perhaps joyned with *malignity*, for the prevention thereof, and least that *plenitude* and *depravation* of the Blood shoud hinder that *transpiration* in the habit of the body, *ventilation* of the blood, and *laxity* in the vessels, which is *requisite* for the *subsequent purge*, do we use *Phlebotomy*: not imagining that there is any *superfluous abundance* of blood, but that there is then in the body *some* that may well be *spared*, and which, *if the Patient hath strength to bear it*, may with *prudence* be let out to prevent so great dangers as are *imminent*, and to secure unto us the *good effect* of the *subsequent Physick*. And if the *disease* do sometimes encrease upon *Phlebotomy*, it behoveth *wise persons* to distinguish whether those *symptomes* happen *by reason of bleeding*, or only succeed it in course, the *disease* being in its *increment*: for this makes a *great difference* in the case: as also whether amidst those *symptomes* (which are *in due course* most violent in the *progress* and *state* of the *disease*; whereas we bleed *usually* in the beginning only) there be not some that yield signs of *concoction* and *melioration*, which if they do, as we may justly attribute those *hopeful consequences* in part to *Phlebotomy*, so we need not be amazed at the *present truculency* of the *disease*; which affrights none but the *ignorant*: If notwithstanding all our care, and *due administration of Medicaments according to Art*, the Patient do dye, yet is neither *Phlebotomy* nor the other *Physick* to be blamed, but we ought rather to reflect upon *Physick*, that 'tis a *conjectural skill* in the most knowing men, and that we are not as *Gods* to inspect into the *bowels* and secret causes of diseases, that besides the *special judgment* of *God* upon *particular persons*, all diseases are not curable in *all individuals*, either by reason of the variety of distempers complicated, which interfere with and contra-

contra-indicate one to the other, or for some unknown idiosyncrasy, or other intervening cause which defeats our Methods, as well as it disappoints the Arcanum of Pepper-drops. I must here take an occasion to remind this Helmontian, that he doth ill to disparage Phlebotomy, by reason that after it there may follow some truculent Symptomes, and yet to reject that imputation where his Dietetical rules are in dispute.

P. 168, 169:
Valles. in Hippo-
pocr. de victu
in morb.
-anot. l. 3.

" When he gives his vinous and spirituous liquors in Feavers (a practise not peculiar to the Helmontians, but allowed, with regard to due circumstances, by Hippocrates not only in diaries but acute-feavers: so Galen would have told this Ignoramus) if any seemingly frightful Symptomes appear, as extraordinary heat, an inquietude, a little raving, a swerving from right reason, the Patient must not be startled in a vulgar manner, but be satisfied that these are but the effects or fruits of an Hornetick motion in the Spirits excited and increased by good liquors; easily united with them for the routing and putting to flight every way whatsoever doth disturb its vital government.—Though Hippocrates say it is good in all diseases, that the Patient retain his senses; though he reckon inquietude and restlessness in the sick amongst evil signs; yet our Helmontian dissent from him whatever time of the disease it be; and whatsoever other circumstances attend thereon: " For oftentimes madness, deviation from the right understanding, a Lethargical or sleepy disposition suddenly break forth. Nihil est quod tam magnifice prodest quod non aliquo ex modo obest. What matters it, if the heat be magnified (besides the main purpose) to some small trouble, if ten times greater benefit accrue to the sick. It is impossible any Physician should perform his duty as he ought, if he boggle at the poppy of heat and cold, merely momentary and transient, often deluding our senses. Surely he that is thus negligent of the Animal faculty in its principal

P. 169.

principal operations, may bear with a pitiful Galenist for not regarding much the *loco-motive strength*, whilst he is as sollicitous as any Helmontian to support the *vitals*: and let any one judge which is most likely to impair the *vital faculty*, a little *blood-letting* duly administered, or such an increase of the *feavourish beat*, *restlessness*, *deliriums*, *phrenesies*, *lethargies*, as our Author here despiseth.

I must not yet dismiss him: not that I intend to laugh at his *six-fold digestion* (he might as well make a *dozen of digestions*) but it is necessary that I tell him that the *production of good or evil blood* doth alwayes depend upon *one root that feeds the branches*: for 'tis possible that the *stomach*, and *pancreatick*, or *bilious mixtures in the guts* may not be *faultless*, and yet the *blood of the Patient either not vivified*, the errors of the *first concoction* being amended by the *primigenial sanguifying Blood* (for 'tis the *Blood in the vessels* which principally *sanguifies*) or if it be *depraved*, yet not so as to generate any disease, or abbreviate the life: for *cacochymical persons* with a little can live more long, and more free from diseases than those of a *purer and more generous blood*: Nor is it less true that oftentimes it happens that the *blood* is infected with *recrementsitious*, *heterogeneous* and *noxious mixtures* from obstruction of the pores, or other occasional causes, wherein the *stomach* and *vitals* (otherwise sound and vegete) are only oppressed and distempered by accident, some of those *impure humours* being discharged upon them: and in these cases repeated *Phlebotomy* alone may *cure*: If the credit of *Botallus* will not satisfy him herein, let him believe his beloved *Hippocrates*, a man who did *extraordinarily practise blood-letting*, so as that the *French* do impatronise him to their *Phlebotomy*; he tells us this story. "A certain man amongst the *Oeniada* was sick when he was fasting, he *felt as it were a great suction in his stomach*, and a violent

Balloonism Epiz.
dem. & ephe-
merid. l. 1.
p. 101.

Vide Riolan.
de circulat.
fang. c. xx.

Hippocrat. 1. 5.
Epidem. l. 5.
c. 11. 6.

• lent pains: and after he had eaten any meat, as it di-
 • gested, his pains returned, He grew very tabid, and wast-
 • ed away in his body; his food yielding him no sus-
 • tance, but what he took came away in ill-concocted
 • and adust stools. But when he had newly taken any su-
 • stenance, at that instant he felt none of that vexatious
 • pain and suction: He took for it all manner of Phy-
 • sick, both emeretics and cathartics; but without any
 • alleviation. But being let blood alternately in each arm
 • (or hand) till he had none left in his body [that was
 • vicious] he amended upon it, and was perfectly cured.—
 Read but that case you that are so timorous, with the
 Comment of *Van der Linden* in his *Selecta Medicina c. xiii.*
 and tell me if upon Phlebotomy as ill blood always suc-
 ceed as is let out. I could add more parallel stories:
 But to demonstrate unto this Pyrotechnist that single
 Phlebotomy will amend and enrich the mass of Blood,
 I propose this case, *An ancient Genitewoman of a very*
strong and corpulent habit of body, but frequently troubled
with hysterical and hypochondriacal vapours, was taken
with a violent catarrh upon her stomach, together with
great pains in her right and left hypochondria, as if the
liver and spleen had been tumified: sometimes she com-
plained of an insupportable acidity in her stomach, and
sometimes a saline humour molested her: Sometimes she
fell into cold clammy sweats, sometimes her sweats
were so hot that she complained as if her skin were burnt:
and even when her stomach felt any alleviation, she com-
plained of a burning fire as it were in her bowels near and
in the region of her liver: a perpetual sputation did
follow her. I being sent for, after several Medicamenta
prescribed methodically, but with little or no alleviation,
I proposed earnestly that she should be let blood, notwith-
standing she were above sixty years old: I took away
eight ounces or more: She found immediate alleviation:
there seeming no default in the blood or serum, I burned
the blood in an arched fire, it came to ignition, but flamed

• *alecamps.*
 • *abv. 3*
 • *es pueris.*
 • *triv. n. XI.*
 • *ex v. cap. 3*
 • *hypothetica*
 • *speciosa, v.*
 • *ann. 78*
 • *regis.*
 See Anton. Be-
 nivenius his
 medicinal
 obseruat.
 C. 44.

not at all: but crackled like Bay-salt, and after some while a sudden eruption of ventosity made such a noise as equalled the cracking of a Chestnut in the fire: She took a stomach-powder of Ivory, Pearl, Crabs-eyes, &c. and was pretty well for three or four dayes, but upon a small fright relapsed: I bled her again as before, and in that short time (in which she had taken very little sustenance; but behold this blood (which looked no better than the other) did burn with a vivid and lasting flame as well as any I ever tryed in my life, and without any sign of flatulency: She recovered presently after with some further Medicaments, but not so as to be perfectly well at stomach of a long time. I doubt not but if others would try that way of burning blood, they would soon be convinced that Phlebotomy makes a great alteration therein.

But I proceed to his other Argument.

This is taken out of *Van Helmont*, whose Latine words I shall not transcribe now, but only the English.

" Let them make it appear if this do not imply a contradiction, that a Feaver hath the property to pollute the blood, and that this property can be taken away a posteriori, by a posterous manner, to wit, by withdrawing what is putrified. For if first the fouler blood be let out, they open a vein again: all this while they overthrow and confound the strength, and so thereby wholly disappoint a *Crisis*. But suppose sometimes a fresh ruddy blood run out, they presently cry as cock-sure, that a whole troop of diseases is cut off at the first dash, as if the resting place of the Feaver did only extend from the heart to the bending of the arm, and the good blood did take up its abode about the liver.

This Argument proceeds upon a most gross falsehood in that part of it, where we are supposed to place such a value upon the colour of the blood as by the goodness or ruddiness thereof we should esteem our selves as cock-sure that a whole troop of diseases is cut off at the first dash: whereas no intelligent Physician ever thought so: for we do say that the blood of all men is not alike, neither as to colour nor consistence naturally: and therefore in diseases we do not expect to see such, nor intend to make any alteration to such a degree as transcends the natural estate of the body: for 'tis our busines to preserve each man his natural habit, be it bilious, melancholy, or phlegmatick. We do also say that in diseases the blood may be corrupted in its substance and vitiated, and yet the colour amended, or

*Ballonius Epis.
dem. l.2. p. 191*

*Ballonius Epis.
dem. l.2. p. 192*

not altered. *Sæpe ad speciem & visum purus est sanguis, qui aliqui tñ ðñ iüs malus est: ut contra impurus cernitur specie, qui non ita tñ ðñ iüs malus est.* —

And Jacob. Thevart his Scholiaſt doth observe, that several times in vexatibz sanguis landabilis ipsa ſectione appetat, & qualitatibus alienis præditus eſt, eſt enim acrinculus & bilius nimis. Nay we are ſo far indefinitely from pronouncing a cure upon the ruddy colour of the blood, that in malignant Feavers we make a

*Petrius de Coſtro
de febre maligna
lig. puncticul.
P. 90.*

quite contrary prognostick. *Pessimum ſignum eſt [in febre maligna puncticulari] & timoris plenum, cum sanguis vena ſcissa extrabitur, ſi purus, rubicundus, & inculpatus educatur, venenositatem ſuperare indicium eſt, aut putredinem in penitioribus cordis latitare. In meipſo olim obſervarem; nam ter per banc febrem miſſo ſanguine, nulla proſeru nota putredinis apparebat, alia ſignis immani ferocitate ſeuentibus.* The ſame is af-

*Simon Pauli
digreſſ. de
febr. malign.
§, 12. 14.*

ferted and illustrated by fatal instances in *Simon Pauli*, which it would be too long to transcribe here. Having demonstrated unto him these errors, I ſay further that we do not hold the blood to be putrefied in all Feavers, as in *Diaries*, nor (many of us) in intermit- tent:

tent : not to mention others : and in those Feavers wherein 'tis said the Blood doth putrefie , We do let blood oftento prevent putrefaction , and not alwayes to cure it by Phlebotomy : and we do it in order to cure the putrefaction, we do not pretend to emit all the putrified blood thereby , but only to alleviate nature of a part thereof, that so she may better overcome the rest ; especially being assisted by other Medicaments . So that the whole assertion is false, if it import that any intelligent Physician designs to cure a putrid Feaver solely and directly by letting out the putrid blood by repeated venæ-section . I will not deny but some in France and Spain have gone about to do it, but the practise is generally condemned by Physicians of the best repute, and therefore ought no more to be charged on us, especially in England, then the miscarriages of any bold Experimentor, or Baconian practitioner at London upon the Colledge of Physicians . This insolent Disciple of my Lord Bacon understands not the sediments of our Physick, nor knows what we aim at in the use of Phlebotomy , there being sundry occasions why we use it, and sundry effects that we expect from it . Neither is he less deceived in saying that Phlebotomy (duly administered) overthrows the strength of the Patient (I mean that strength which is necessary to the concoction of the disease) and so thereby wholly disappoints the Crisis . For it is manifest that by those profuse Phlebotomies of the Ancients the Crises were accelerated : and in ours promoted . This is not only manifest out of Hippocrates and Galen , but confirmed unto us by the certain experience of Forrestus , and those learned Florentine Physicians who composed the Academy there for the renewing of the Hippocratical and Galenical Method in opposition to the most prevalent Abicen-
nisijs . " Nos igitur Galeno sibi (quoniam sic con-
ducit magis, dum vires ferant) sanguinem misimus
plurimum, nam bilibre pondus & trilibre in acutis
febris .

*Vales. meth.
medend. l. 4.
c. 2.
Castells de
abusu venæ-
section. p. 60.*

*Forrest. de se-
brel. 12. in
Scholio,*

*Nova Acad.
Florentina
opuscula
adv. Avice n.
p. 43, & p. 55.*

feribus: aut magnis aliis morbis superavitimus: atque
 id non modo impune, sed & tanta aegrorum tolerantia,
 ut nil supra eligi posuerit. — “ Quam rem abun-
 de nobis cum experientia nosti (ut nos quoque aliquan-
 tis per experientiam ostentemus) ut qui preter cetera,
 quorum Paulo ante mentio fuit, & venae quoque sectione
 abunde usi sumus, atqne id citra discriminem: quin et
 exactam illam vivendi formulam, veteribus quidem fa-
 miliorum, neotericis vero ne nomine quidem ipso notam,
 instituimus. Quo factum est, ut jam crises multæ sp-
 pareant, ac velut novus naturæ ordo, aegris felicissime
 favent: Cum antebac vel pharmacia agitata, vel intem-
 pestivo vijtu impedita, nullas ostenderet, aut admodum
 raras, easque non nisi in rusticis atque infima plebe, qui
 nec pharmacorum multitudine, neque ciborum aut potio-
 num, fatigari, aut impediri quirent. I have more
 willingly cited this passage because the renown of that
 Academy was such that it gave a check to the grandeur
 and prevalence of the Arabian Method, and the truth
 of what they say cannot be questioned by any that
 knows the persons, and the revolution they brought
 about in Europe: and hence we may learn the reason of
 that difference which seems frequently to occur be-
 twixt the ancient diseases and their critical motions and
 terminations, and what we generally find: It ariseth
 not from any such great change in the nature and types
 of maladies, as some have ignorantly writ of late: nor
 as this Bacon-face talks, because we reiterate moderate
 Phlebotomy: but because we do not follow at all the
 Method of Hippocrates and Galen in the curing of dis-
 eases: However we pass for Galenists and Hippocrati-
 cal Physicians, yet in truth we are not such: our practise
 is made up most out of the Arabian Method, and Me-
 dicaments, and is a mixture of the Grecian and Sarra-
 cenicall Physick, together with those accessions which
 improved Chymistry hath introduced: and since we
 disturb Nature with our vomits and minoratives in the
 beginning,

beginning, and neither bleed, dyet or otherwise Phyfick our Patients according to the *ancient prescriptions*, do we wonder to see another face and *issue of maladies* than was heretofore? Or, doth not he rather deserve to be wonder'd at, that should expect in so different circumstances for resembling effects? I believe our Helmontian with his *Emeto-cathartis*, and exquisite *Arcana* (so far transcending all the *shop-medicaments*, or received *Chymical preparations*) doth see as few *Crises* as any *Phlebotomist*: and may not I then retort upon him, that *he by his practise wholly disappoints a Crisis?* Nay, doth not he tell us, that in *his way*? there will be no need to stand gaping for a crisis, p. 101.
sith that may be anticipated, and all seenred before that time, if there be a regular procession: And may not the present *Galenists* justify themselves in the same manner, since they can better warrant their process and Medicaments; by a longer succession of Experiments happily made by judicious men, than this ignorant *Helmontian Innovator*?

Another Argument of his is this.

" If it be so that *striking a vein* often in a long *tedious disease*, is a preparatory for a *sharp Feaver*, as p. 110.
 " Doctor *Willis* and I both herein jump right in our observation: then am I certain that *Phlebotomy* repeated in an *acute sickness*, is a door set open and an in-let for a *long infirmity*, so that this mode of deflating the vigour of the *Spirits* doth for the most part (as I have strictly heeded many years) disarm and plunder Nature in such sort that it cannot resist the Assaults of every petty infirmity, witness those multitudes who after sharp conflicts fall either into relapses, or Agues, Scorbute, Dropsies, Consumptions, Atrophy, Jaundise, Asthmaes, &c. which might be easily prevented, if a mature regular course were taken.

‘ taken to give convenient *Emeto-cathartics*, *Analeptics*, *Diaphoretics*, which safely and speedily cleanse
‘ the Stomach, keep up the strength and breath, that
we need not fear any mischief from this late invention,
‘ Redundance of *Sulphur*, or Salt in the blood, no
‘ more than *choler*, *phlegm*, and *melancholy* in the An-
‘ cients.

p. 108.

“ The observation of Doctor *Willis* is this : *de febr.*
‘ p. 75. *Prae ceteris vero observatione constat, quod*
‘ *crebra sanguinis missio Homines febri aptiores reddat.*
‘ i. e. Now above all, it is certainly known according
‘ to observation, that often bleeding makes men more
‘ apt to fall into a Feaver : Again he follows it close.
‘ *Hinc fit ut qui crebro mittunt sanguinem, non tantum*
‘ *in febres proclives sint, verum etiam pinguiscere sole-*
‘ *ant propter cruentem succo Sulphureo plus impregnatum :*
‘ i. e. Hence it comes to pass, that they who often
‘ breath a vein, are not only prone to fall into Feavers,
‘ but also are wont to grow fat by reason the blood is
‘ full of Sulphur. In another place to this purpose he
‘ drives it home. *Qui sanguinem habent sole volati-*
‘ *lisato bene saturatum ij sunt minus febribus obnoxii :*
‘ *hinc etiam qui sepius sanguinem emittunt ad febres*
‘ *aptiores sunt.* They whose blood abounds with vola-
‘ tile Salt, are not subject unto Feavers : for this cause,
‘ they that use *Phlebotomy* often are more liable to Fea-
‘ vers.

p. 109.
G. T. under-
stands not
what a pro-
catardick cause
is : it is here
a causa *de m.*
quoniam.

“ From hence — G. T. forms this Epilogisme.
‘ Well then the Doctor and I agree thus far in the
‘ main, that frequent bleeding procures Feavours ;
‘ which is sufficient to back my Assertion, that Phlebo-
‘ tomy is no good method of healing, sith it is plainly
‘ a procatardick cause of Feavers. For whatsoever
‘ means exhausting the strength (as I can demonstrate
‘ this course doth, more or less, sensibly or insensibly)
‘ inviting or making way for Feavers, instead of pre-
‘ venting of them, is not to be approved of or allowed
in

in curing the Scurvy or other diseases : unless we do
 act like Tinkers, some whereof are reported to amend
 one hole and make another : for how can it possibly
 consist with the honour and credit of a Physician,
 quem creavit Altissimus, to go about to correct the
 blood by often letting it out in a Chronick disease,
 and likewise withall to usher in, or as it were to be a
 Pander to the introduction of an Acute feaver, which
 in a short space dissipates that strength which this
 Phlebotomical harbinger hath in part worsted ?

In this Argument there are so many defaults (which are obvious to be seen) that I must recommend again to these Baconian Philosophers, a Caution I have more than once given them ; which is to omit in all their discourses those **hexatious conjunctions**, **Causals** and **Illatives** : Tis meer pedantry for them to be tyed up by such **particles**, the idle foppery of Grammarians, and Logicians, and men of common sense. The Reason, if reduced to form, runs thus.

That which inclines unto a Feaver is not a proper remedy in a Feaver.

But frequent blood-letting inclines to Feavers.
Ergo.

The Major is false every way, whether it be supposed that Phlebotomy produce such an effect *per se* and directly ; or by accident, and only in some persons, in some circumstances. For were it true that Phlebotomy did directly and wheresoever it is used introduce a Feaver, yet it may so happen that a Feaver may be expedient to some Patients for the prevention of greater evils, and sometiems for the curing of them : and in these cases 'tis as much prudence in a Physician to acquiesce in, or run the fortuitous hazard of a lesser or less dangerous evil, as 'tis for States-men in the Body politick. Nature doth

often cure one disease by introducing another: and commuting the more dangerous into another of lesser hazard: as any intelligent Physician knows, who understands the *Metaposis* and *Metastasis* of diseases. I am not obliged to read to these Disciples of my Lord

Vide Steph.
Roder. Cistren:

**Dux ex
quibus.**

Vales. in
Epidem. 1.4.

p. 448. in *hi-
stor. Alcipri.*
& *ibid.* p. 401.

in *hist. femu-
ris emplitis.*

*Hieremias
Thriverius*
Brachelium in
lib. 4. Aphor.

57.

*Vales. contro-
ver. Medic.*

1.8 c.x.

*Hieron. Ru-
bus* in *Cel-
sus. lib. 5. sect. 4*

*C. Celsus de
Medicinal. 3.*
c. 9.

p. 162.

Bacon a course of Medicine. There is an *Aphorisme* of Hippocrates to this purpose. *Quia convulsione aut distensione nervorum tenetur, febre superveniente liberatur.* Upon which words *Hieremias Thriverius* doth thus comment. *Alio modo febris convulsionem tollit ex plenitudine, alio rursum modo distentionem: convulsione enim curat, quia plenitudinem discutit; distensionem vero quia insigniter universum corpus incaldeficit: forte etiam distentio convulsionis genus nescit.* *Quicquid autem sicut usque febris confert, ac potissimum dia-
ria, immo & putrida minus periculi afferit, quam ipsa disten-
tio.* *Frustra ergo conflictantur in ea questione Neoterici, an putridam febrem convenient excitare in convulsione ex plenitudine, aut flatulentio tumore.* Which that it may be lawfully and prudentially done (but not by every fool) is a judged case amongst us: and were it not lawful, the Argument would by a parity of reason extend to several operations in *chirurgery*. It is the judgment of *Celsus* long ago, with which I conclude.

Sed est circumspetii quoque hominis, & novare interdum, & angere morbum, & febres accendere; quia curationem, ubi id, quod est, non recipit, potest recipere id quod futurum est.

The Major being thus false in that sense which was most pertinent to his purpose: 'tis most ridiculous in the other: For who will not immediately laugh at him that should thus determine? That which may in some persons, and in some circumstances incline unto a Feaver, is never the proper remedy of a Feaver? And how can this *Bacon*-face upbraid us herewith, who doth himself prescribe to his Patients in Feavers the most generous liquors of the subtlest smack, exhibited largely,

largely, without insisting upon the nicety of any danger from heating? and yet his Sack and other generous liquors may engender Feavers, and other distempers in the healthy. In fine, Whoever rejected the use of a thing for the abuse, or condemned peremptorily any cause for accidental inconveniences following thereon, but such a Dulman as this Helmontian, and his brethren the disciples of my Lord Verulam.

To the Minor I reply: that for the observations made by this insipid pretender to Pyrotechny, I regard them not at all: he hath not judgment enough to make one. *Ego vero sicuti experientiam multi facio, dummodo commodum expertorem natu sit: Ita si unicuique qui se expertum dicat temere credidero, ridiculus profecto habear: ut qui & fori circulatoros ac loquales vetulas, agrestes quoque sacerdotes in prelio habeam.* Nova Auct. Florent. cypul. cul. p. 21.
Nam si quæras, omnes uno verbo, quæ proponunt se expertos dicunt. It is true I have a great reverence for the name of *Experience*, and the bare mention thereof commands an attention from me: But it hath been the peculiar misfortune of my education, that I have been taught, not rashly to assent: nor to believe every thing that is told me, since there is nothing but may be spoken by some body. I can be so civil, and so cautious as to give the Relator an hearing, how mean soever he be, but before I credit him, I must consider whether the thing be possible? and withhold (because my knowledge is not the adequate Measure of possibilities in nature) Whether it were done? If the thing did succeed, I inquire, whether it will constantly, or most commonly follow upon the like causes and circumstances? Or whether it is a rare accident? In the two first cases, the knowledge thereof makes a Physician the better Artist: the latter adds to his general Science of natural Phenomena, but not at all to his Art, except in cases as rare as the Phenomena related. In Artibus, inquit Galenus, duo sunt præ-

Lo. Riols.
in resp. ad
dubia Anato-
mica Barthel,
P. 75.

ceptorum genera, unum eorum quæ perpetuam habent
veritatem: alterum, quæ utplurimum ita se habent,
& tolerantur: quæ raro sunt, ibi locum non habent.
At hodie multi sibi placent in scribendis & obtruden-
dis observationibus rarissimis, tanquam novis Artium my-
steriis: sed rara non sunt Artis. *I do also consider the*

Mr. R. B. 1.2. quality of the Relator: the vain-glorious and ambitious are easily deceived, because they passionately desire the thing should be so, and 'tis for the credit of such Observators, if it be so: the young are easily imposed upon by the little experience they have of things, the credulity that is in them naturally, and the good opinion or hopes they have of the integrity of others; and because they are conceited of their own knowledge (though the prospect of things be narrow) they are prone to opiniatry, and vehement in their assertions, though too unsettled, and impatient, (as well as ignorant) to weigh any thing maturely and with all its requisites. I do not weigh the greatness and opulence of Relators, but value them as they are Artists, for such only can judge in their own Faculties: And when controversies arise the Stagirite deluded me into an opinion, that the most probable tenet was that which the most, or the most intelligent did profess. This Pyrotechnist upon many reasons deserves not any credit: he writes Books as Mountebanks paste up Bills, to invite custom: the Medicines he recommends are such as by the sale thereof he would advantage himself: all he publisheth is in a subserviency to this end; and 'tis not his skill, but his ignorance that is concealed in his Arcana: all that ever sweet William or Andrew related upon a Quack-salvers stage deserves as much of beed and esteem, as what G. Thompson talks. I do not ask thy pardon Oh! most illiterate and dull disciple of thy Lord Verulam, for dissenting from Thee. But I with submission and deference beg leave for not adhering to Doctor Willis: No man of understanding can condemn his

his practise : he hath not altered the *Authentick methods*, but given new and plausible reasons for an *Ancient procedure* : This Character is due unto him, that scarce any man surpasseth him in his thoughts, when awake ; and 'tis his peculiar happiness, that his Dreams are pleasant and coherent. Amongst all that have written about *Phlebotomy*, and its abuses, I never met with one that recounted this for one evil consequence thereof, that it inclines men to *Feavers* : I find *P. Castellus* to reckon up twenty five evil accidents which sometimes ensue thereupon : but this is none of them. Nor do I see that it is reconcileable to that effect of Phlebotomy, whereby it refrigerates the *habit of the body*, and the common distempers which follow the Abuse of it, are cold : If it be true that it inclineth people to be fat, and fat people are neither so hot, nor incident to *Feavers*, as the lean and bilious (though otherwise more weak) there is reason why my doubts should increase upon me. It might, with some colour, have been said, that excessive Phlebotomy did dispose to the *Rheumatisme* and *Gout* ; but not to *Feavers* ; except by accident, that some persons having contracted a grosser and more sanguine habit of body upon Phlebotomy, and (such complexions being most capable of any malignant or pestilential and contagious infection, not by reason of their phlebotomy, but from the *habit of body*, which whether natural or adventitious is lyable to those casualties) falling upon any excess or other occasional cause into the Small-pox, or *Sanguine feavers*, the observation hath been raised into repute. It is a thing I have not seen to happen vulgarly : nor doth any Author, that I know, take much notice of that other effect, how Phlebotomy inclines to fat : I have read in *Joannes Fuchs* a Bavarian that such a thing hath fallen once, or so, under his observation, in a Lady : and Doctor *Primrose* denies the matter of fact, that Phlebotomy will make those that are inclined to be fat, fatter :

Claudius
proposito
frequent
Phlebotomy
as a remedy
for fevers.
Venæ sectio
omnino con-
venit; imo
sunt, qui nihil
magis ad de-
trahendam
corporis mo-
lem valere
exilliant,
quem cre-
bram sectio-
nem venæ.
Empiric. ratio-
nal. l. 1. §. 1.
c. 4.

D. Fuchs
Compend.
abul. p. 2. c. 7.
Primros. de
vulgi error.
l. 4. c. 50.

fatter : though persons that are extenuated and emaciated with sickness may by bleeding acquire a greater corpulency : And certain it is that in those Countreyes where Phlebotomy is most used, there are fewest fat men, and women : as Spain, France, and Italy, or Egypt, in this last region, it is their particular study, and a distinct profession, to make people fat, but 'tis by other courses then Phlebotomy. In short, I my self have been let blood above fourscore times, and yet am lean : and so far from being favourisly inclined, that I never had any except the Measles once, and Small-pox twice : and twice a tertian Ague : and I find no imbecillity or prejudice in the least that should induce me to repent what I have done, or resolve against it for the future : But we must distinguish upon what is produced by any thing as its cause, and what is only a concomitant thereof : If it ten thousand times proves otherwise, we must not impute the growing fat of one Patient to Phlebotomy indefinitely, but rather to some alteration the disease (in which it was applyed) hath wrought in his body, to his Analeptic diet, and course of life, subsequent thereunto; or to his individual temper. And perhaps it may be not impertinent to add here, that as Distillation and the burning of the blood of a Multitude of persons hath convinced me that there is no such deflagration of blood, as that learned Physician imagines, nor any vital fermentation in the blood depending upon the Chymical ingredients of Salt, Sulphur, and Spirit, &c. so neither is the Blood of corpulent persons (I never tryed the Obese;) because they do not bear Phlebotomy; except once in a Youth lately that was extreme fat, and in danger of an Apoplexy, and it did not burn with so vigorous and lasting a flame as that of many lean men, but by its crackling gave testimonies of much salt: yet the serum was insipid) it is not properly sanguine, but pituitous.

But

Prosper Alpinus de med.
Egyptiorum,
1.3.c.15.16.

But to resume the discourse : I expected to have seen the *Minor* proved by our *Helmontian*; but although I find that he saith *his observation did jump with that of Doctor Willis*, that *Phlebotomy did incline to Feavers*: Yet my Reader may see that in the *first part of the Argument*, as I have urged it in *his own words*, he reckons amongst the *evil consequences of bleeding* none that proceed from an *opulent and sulphureous blood* transcending the *dominion of the spirit* that remains after *Phlebotomy*, but such as argue an *impoverishing of the blood*, or a *cold indisposition*. I will repeat it again, to shew how *justly* I censure his *Logick*, and so dismiss the *Argument*.

If it be so, that striking a vein often in a long and tedious disease, is a preparatory for a sharp Feaver, as we both herein jump right in our observation : then am I certain that Phlebotomy repeated in an acute Sickness, is a door set open, and an in-let for a long infirmity, so that this mode of defalinating the vigour of the spirits doth for the most part (as I have strictly heeded many years) disarm and plunder Nature in such sort that it cannot resist the assaults of every petty infirmity, witness those multitudes of relapses, or Agues, Scorbute, Dropsies, Consumptions, Atrophy, Jaundise, Asthmaes, &c.

The proof of the *Minor* here is not only defective : but the *mischief* is, that Doctor *Willis*, who *judiciously* useth *Phlebotomy*, commends it in *Feavers* both in the beginning and augment of those that are *putrid*, (and also in *Diaries*) as the *principal remedy* (*in primis conductus*)

Dr. WILLIS de
lebra. p. 197.

Dr. Will's de
febr. p. 166.
edit. 1662;

conductit) and speaks in the place cited by our *Helmanian* only of a *customary letting blood in time of health*: Whereas this *Bacon-faced Pyrotechnist*, saith that their *Wits jump* in this, that often striking a vein in a long and tedious disease is a preparatory for a sharp Feaver: Let any man read the place and see how he abuseth that excellent Practitioner, whose words are, *Prae ceteris vero observatione constat quod crebra sanguinis missio homines febri aptiores reddat, quare dicitur vulgo, quibus sanguis semel detrabitur, eos, nisi quotannis idem faciant, in febrem proclives esse.* I am sorry he should seem to give a reason for a vulgar error: for once or twice bleeding doth no more create a *Custome*, or dispose Nature to an anniversary commotion in the blood, than one Swallow makes a Summer: But certain it is, (I speak of our *cold Climates*, not of those hotter where sweat and transpiration often prevent those determinate motions of nature) that such here as are very much accustomed to bleeding, keep certain times for it, their bodies will require it at that time, and, if they restrain it, they will feel an oppression and dulness, or lassitude, and may fall into a Feaver, but Aches, Rheumatisme, Gout are more likely, except other accidents concur to produce a Feaver: if the ebullition be no greater than to produce a *Lassitude*, 'tis possible (in some bodies) that the Scurvy, Cacochymy, Cachexy, Dropsic, Asthmaes, Cephalalgyes may ensue: for the *morbifique ferment*, like the *scum boyled into the broth*; may mix inseparably with the blood, and vitiate for ever that great *sanguifier* with an unexpressible pravity: But he that thinks 'twill be so in diseases, when the Patient is *phlebotomised*, neither understands the *motions of nature*, nor the *effects of a sound recovery*. Instead of Doctor *Willis* this illiterate *Baconist* (who professeth to be so well versed in the way called *Galenical*) should have (as he argues) made his recourse to *Avicen and his followers*, who are (in many cases) fearful

fearful of Phlebotomy, least it should produce an ebullition of choler, or crudity: which two inconveniences may produce all that—G. T. talks of. Thus sometimes Tertians have been doubled, nay turned into irrecoverable continual Feavers. But all the cases relating thereunto concern not an intelligent Physician, who understands what is past, present and to come, and knows when to presume, when to fear. But I intend not to teach these fellows: it were better for the Nation, and them too, that they were Coblers, or day-labourers, than Practitioners in Physick: a Doctoral Diploma, though purchased, will not sufficiently qualify them for the profession; and as little doth the title of Experimental Philosophers, and Verulamians, avail them.

*Hor. Augen.de
miss. sangu.
l. 4. c. 19.*

The next Argument of his that I come unto, and which is more than once inculcated, as if he thought it a Demonstration, is this, as I may form it.

" If it be not fitting, nor useful to bleed in the Pest, which is a Feaver ~~w^t exēs~~, it is not fitting, nor useful to bleed in any ill-conditioned Feaver whatsoever.

" But it is not fitting, nor useful to bleed in the Pest. Ergo.

" The Consequence of the Major is thus proved. It is no less criminal to suffer the Blood to spin out in p. 82. any ill-conditioned Feaver whatsoever, then in that which is so ~~w^t exēs~~. And, Albeit our Phlebotomists p. 99. do extenuate the matter, setting a fair gloss upon it, pretending that in malignant Feavers of the inferiour clast, Plethoraick or Cacochymical indications do manifestly require their utmost assistance before that inconsiderable venome lying occult: I must, by their favour, be bold to tell them they will never solidly and

‘ speedily make a sanation of any great Feaver, or any
 ‘ other disease, till they handle it in some manner like
 ‘ the Plague: for there is quiddam deleterium, a cer-
 ‘ tain venosity in most maladies; as I can prove ex
 ‘ facto.

p. 81.

“ The Minor is thus proved. For whosoever at
 ‘ any time, upon what pretence soever of caution,
 ‘ attempts Phlebotomy for the cure of the Plague, takes
 ‘ a course rashly to jugulate the Patient, unless some
 ‘ extraordinary redemption happen. Certainly here
 ‘ Doctor Willis. (who allows to persons accustomed to
 ‘ bleeding, and in plethorick bodies, the humours being
 ‘ very urgent, though seldom, and with great caution,
 ‘ to bleed) speaks by rote, for had he Anatomised the
 ‘ Pest, investigated the nature of that atrocious stroke,
 ‘ as I have, feeling the smart of it three several times,
 ‘ he would as soon allow of piercing a vein in him
 ‘ who hath taken an intoxicated draught, as at any time
 ‘ in this case, where the Stomach alone is the place
 ‘ from whence the poysen is to be exulated. ’Tis no
 ‘ wonder if the Galenists strait enjoyn bleeding, where
 ‘ they find a seeming foulnes in the left malignant Fea-
 ‘ vers, when they dare be tampering with it in the
 ‘ greatest.—The only noted Sluce through which
 ‘ the poysinous matter of all malignant Feavers passes
 ‘ away, is the universal Membrane, the Skin, on which
 ‘ the Stomach hath no small influence, governing this
 ‘ Catholick coat at its pleasure, in so much that no suc-
 ‘ cessful sweat or eruption can be expected as long as
 ‘ the Dunnvirate lies prostrate under any insulting
 ‘ calamity. Wherefore the Arch-design of the Physi-
 ‘ cian is to cherish, corroborate, and remove all impedi-
 ‘ ments of this eminent part, that it may protrude, ex-
 ‘ plode, or ejaculate from its bosome to the utmost li-
 ‘ mits, whatsoever is virulent, closely supplanting the
 ‘ fortress of life. Now whether bleeding be any com-
 ‘ petent Mediu[m] to atchieve this, let any one indiffe-
 ‘ rently

p. 82.

* rently verfed in the knowledge of the Pest be Judge;
 * wherein no honest able Artist dare open a vein, be-
 * cause it will attract the Miasme inwardly, hindring
 * the extrinsecall motion of the Archeus, for the expul-
 * sion of what is mortiferous.

Before I come to answer particularly to the Argument, give me leave to animadvert upon some passages in this discourse. As to the Dunmvirate, I do not understand whether he be absolutely of Helmont's mind, or no, making the *Pylorus* of the *Stomach* to be the place where the *soul* is radically seated, and whence it displayes it self principally in the management of the *Oeconomy* of the *body*; joyning the *Spleen* with the *Stomach* as an Associate in that *Sovereignty*. There is not any thing more foolish than the *dreams* of Helmont; had our *Baconist* any understanding of *humane nature*, any converse with *modern Writers*, the vanity of the *Dunmvirate* would have been manifest unto him: I advise him to read the *Fundamenta Medica* of the excellent *Mæbius*, where he treats of the *Stomach* and *Spleen*: where he alledgedeth nothing for himself, why should I insist on anything. The general *Archeus* of the *Stomach* and that appropriate to each part seem to me to import no more, nor to be more intelligible than the innate heat of each part, and that other influencing each part and disseminated from the Heart: If the innate heat of each part be called a particular ferment, it matters not much: I comprehend it as little still: How the operations of Nature are performed I know not, nor ever shall understand by *Canting terms*, or *Similitudes*: That the notion of *Fermentation* is equivocal, or not to be accommodated to the *Stomach* and its *digestion*, but by a certain *Animal heat*, I think *Mæbius* hath evinced: and I cannot be satisfied with the reply of *Kergerus*: and if the notion of an implanted ferment and fermentation be suspicious there, where there

Mæbius fundam. med. de usu ventriculi,
p. 178.
Kerger. de fermet. §. 3.
c. 2.

is the most to be alledged for it, I may be pardoned for scrupling to fix it elsewhere; but to be content thus to manage the Question, as if it were branched into these Interrogatories.

Whether the Pest be a Feaver *var' scxir?*

Whether in the Pest it be lawful and beneficial to let blood?

Whether all ill-conditioned great Feavers, and most maladies have in them a particular venome, *deleterium quiddam*, and are to be cured by Corroboratives, and Diaphoreticks, without Phlebotomy?

The distinct solution of these Questions will make the answer to his Argument very facile: and I will not retrench upon the not-to-be-perceived Empire of the Duumvirate, nor inquire by what means the stomach hath such an influence upon the Skin as to govern it as it pleaseth.

The first Question if I were to determine it out of —G. T. in his Treatise of the Pest, I would resolve in the Negative upon this reason. If the Pest be a Feaver *var' scxir*, then is a Feaver inseparable from it, and that term ought to be put into its definition. But — G. T. doth not define the Pest by a Feaver, and grants that the Pest in some produceth no Feaver at all. Ergo —

G. T. of the Pest. c. 1. p. 8.

His definition of the Pest is this. The Pest is a contagious disease, for the most part very acute, rising from a certain peculiar venomous Gas, or subtle poison, generated within, or entering into us from without: at the access or bare apprehension of which, the Archaus is put into a terror, and forthwith submitting to the aforesaid poison, invests it with its own substance, delineating therein the perfect Idea or image of this special kind of sickness distinct from any other. He that can accommodate this Definition to a Feaver, or find any thing of a Feaver

Feaver in it more than of the *Colick*, or *Dysentery*, *Diarrhea*, understands more than I ; for even these have been *Contagious*, as well as *Epidemical*: Perhaps he will reply, that the *Pest* is *always so* : But in this, notwithstanding his boasting here he understands the *Pest*, and (whereas *Rondeletius* and other *Galenists* dissected many that died of the *Plague*) he did anatomise one that deceased of *it*, yet doth he not know the *Nature of it*: For the *Pest* is not *always contagious*, there being recorded many cases in which the *Pest* hath seised *one person*, and extended no further. However if the words *Contagious Disease* do not include a *Feaver* *νεύρησις*, there is not any mentioned in the definition: and if they do, then is also the *Scabbado*, and *Leprosie*, &c. a *Feaver* *νεύρησις*, since each of these is a *Contagious disease*. In sum, He grants that the *Pest* may invade without a *Feaver*, in these words.—*It produces a manifest Feaver in this man, and in that none at all, or hardly any sensible.*—These words do not become a man that *Holds the Pest to be a Feaver νεύρησις*, and carries on the *Hypothesis* so far as to make all *malignant, putrid, Feavers* to participate thereof, and bear some *resemblance* thereof: and (which is *pretty*) that *almost all maladies* (either *Feavers*, or not) fall under the *same predication*.

But I pass from—*G. T.* to inquire into the true nature of the *Pest* according to the most learned and judicious Practitioners that ever attended in it. The most accurate *Isbrandus a Diemerbrook* relates how many in the *Pest* at *Mynnegen* (where he was *Visitant*) had the *Pest* without any signs of a *Feaver*: nor was this to be seen only in such as dyed suddenly, but in those that had *Botches* and *Carbuncles*, yet went up and down and pursued their business, without being *any way feaverish*: of which number *himself* was one. And he with the allegations of many *Authors* and *Histories*

Isbrand. a Diemerbrook de Pest. l. 1. c. 7. s. 1. p. 18. edit. 1665. Amsterdani. & Zacchia Qu. medico legal. l. 2. tit. 3. Qu. s. 13. 14. G. T. of the Pest. c. 3. p. 42.

Ibr. a Diemer. de Pest. l. 1. exii.

So Van der Mye during the siege of Breda, relates causes of such as had the Plague, and yet during the whole time of their sickness had no Feaver.

Van der Mye de morbis of Breda p. 1, 2.

of *Plagues* justifies his *Definition*, in which he forbears to make the *Pest* to be a *Feaver*. In like manner *Casper Hofman* living in *Norimberg*, when the Town was besieged and the *Plague* raging, had the *Pest* himself with a *Carbuncle* on his shoulder, *sed sine alio symptomate*, and taking due care of himself, without confining himself to his bed or chamber, he recovered: He instances in others that escaped, *in the same condition*. With these agreeth *Nardius*, who was chief Director in the *Plague* at *Florence* in 1630.

C. Hofmann.
Antisernelius
Lemn. 64.

I. Nardius in
Lucret. l. 6.
p. 527.

Alex. Massar.
de pest. l. 1.
(inter opera)
p. 498. &
Forstl. de
febr. & obs. x.
Sennari. de
febr. l. 4. c. 1.
Dudith. inter
apst. Schoet.
ep. 52.

Fateor febrem hanc pro putredinis aut diffusionis condicione, copia aut incremento, modo maiorem, modo minorem existere, quam in nonnullis Synochum, Tertianam continuam, & Febrem quemcunque ardentem incendio & calore aquasse, non ego tantum, sed & Collegae mei, Doctores hujus urbis Medici clarissimi, agris in publico No-foconio decumbentibus operam praestantes observarunt. Munderer. de pestilentia. c. 6.

It is granted that usually the *Pest* is accompanied with a *putrid malignant Feaver* of a very uncertain Type; which sometimes appears not before the *Botch* and its *suppuration*, sometimes it begins with the first *ataque* of the *venome*. If what I have said be true, and that the *Pest* may be without any sign of a *Feaver*, or any sensible indisposition, I much doubt the reality of his opinion who talks so much of the affrighted *Archæus*, and the troubles

which essentially and inseparably befal the *Duumvirate* of the *stomach* and *Spleen* upon this *invasion* or *infestation* of the *pestilent venome*: and I am more confirmed in my jealousy, because I have read that some of them that have had the *Plague*, have not felt any

symptome

symptome about their Stomach , not so much as a debility of appetite, but sometimes they have complained first of their heads being discomposed , and most commonly of anxieties about their Heart . But 'tis not my intention to write a Treatise of the Plague : 'tis a disease I never saw, though at Fulham-pest-house and at Windsor I gave such Prescripts and Medicines in the beginning of the Plague as did equal in effect any of the Arcana of this Helmontian . As for the knowledge this talkative person should acquire by dissecting one body , it is but little ; it argues want of reason in him to conclude generally from one case : the Glory of the Art is much abated in this, that *Bontius*, and *Rondeletius* in the presence of many Students dissected several ; and (which is more) this last denies the Carcasses of such as dye of the Plague are not infectious ; so doth *Fracastorius* , *Jordanus* , *Gregorius Horstius* : I allow that this last is not a constant truth , and that there are some Observations recorded by which it appears that the Carcasses of such as dyed of the Pest (before putrefaction) have been infectious . But to shew with how much injustice he triumphs over the Galenists for his having dissected one single body , I shall let the World see that the Galenists (without proclaiming the fact , or causing a Picture of it to be cut) have done as much , and that the variety of Pests , and the different effects they produce in bodies is demonstrable . At Palermo in Sicily in 1647. there was a Plague , in which upon the dissection of many bodies by a sort of fellows , all whose knowledge did not enable them to cure a cut-finger , whose skill is but words , and advances nothing : these Galenists did Anatomise them . *Hec visa : vasa omnia venæ cavae sanguine ita nigro, adusto, atrabilari, turgida ac repleta, ut fusi atramenti similitudinem præse ferret.* *Idem sanguis tum in corde, tum in faucibus repertus fuit, pulmones atque hepar tumefacti, inflammati, ventriculus bile turgi-*

*Sennert. de febr. l. 4 c. 1.
de pestilent.*
Postea de Pestil. l. c. xii.

*Rondeletius
de febr. de febre pesti-
lentiali.*

*Volcherus Ci-
mex
dissected ;
many in the
Hungarian
Pestilential
feaver : so
did *Iffenius*,
and *Mulander*.*

*l-soph. Man-
cuso pro sec.
cub. vena
def. p. 153d.
154.*

dus, nulla in venis Meseraicis, nulla in intestinis laeso.
Eadem hæc uniformiter in singulis fuerunt observata.
 If it be said, that 'twas no great attempt; because it
 was no very mortal Pest; yet this is certain, that it
 lay in the mass of blood, and that the Duumvirate was
 not so much concerned, as G. T. could have wished;
 nor the blood in the *vena porta* altered according to
 Circulation: Well: that last at Naples I am sure
 was as pernicious as ours at London; and there the
 Colledge of Physicians caused many to be dissected: I
 have not met with the Programme published by them,
 but the Duumvirate gains nothing by what I do read.

*Carol. Valesius
de Bourgdieu
de pest. p. 239.*

Nam dissecta cadavera, hepar, pulmonem, intestina, ni-
gris maculis interstincta, cor vero atro sanguine con-
creto luridum præbueret, ut Medici Senatus Neapolitanus
programmata die secunda Junii edita promulgarant.
 Neither doth it appear that what this *Protechnist* saw
 in the body, after the man was deceased, was either the
 cause or seat of his distemper when he first fell sick:
 the last *strugglings* for life might express many *liquors*
 into the stomach, and vitals, and they upon their *com-*
mixture, settling, and refrigerescence create, other Phæno-
mema than were merely the effects of the Pest. 'Tis
 averred by *C. Celsus*, *Neque quicquam est stultius, quam*
quale quid vivo homine est, tale existimare esse moriente,
imo mortuo.

*C. Celsus me-
dicinal. i.
pref.*

That I may the better decide the *subsequent contro-*
versies, it will be requisite I represent a more exact *De-*
finition of the *Plague*; and to do that well, I must dis-
 tinguish upon the word *Pest*, which is either taken
 in a general sense, and so comprehends any *Epidemi-*
cal contagious Disease of which many in the

Coytarius de purpura c. 7.
p. 54.

Maffiarius de pest. l. i. (inter operi) p. 497.

same Country do dye, be it attended with a Feaver,
or destitute of one, be it occasioned by any specifick ma-
gnity, or anomaly of the Air, or arise from evil diet, or
imported by contagion. Thus the *Epidemical contagi-*
ous and pernicious Colick recorded in *Ægineta*, was a
Pest:

Pest : thus Squinancies, Catarrhs, Pleurisies, Peripneumonies, Diarrhoeas, Dysenteries, the Measles, Small-pox , have been pestilential: nay the Garrotillo or Strangulatory disease in Spain, Sicily and Naples, though it seized upon and infected scarcely any but Children, was a Pest, and esteemed so by Aetius Cletus and others. Thus it was deemed at Venice to be a Pest of which so many once died , though there were not any other Symptomes perceptible in it, but a tumor of the testicles accompanied with sudden death. Legi superioribus mensibus libellum Veneti cuiusdam, qui experientiam testem citat, multos ex peste mortuos esse, quibus testiculi intumescabant solum, nullo praeterea symptomate agrotos illos invadente. It matters not what is the ~~anatomie~~ of the disease , which way the venenous matter inclines, or what part it principally affects ; a Carbuncle in the throat (as in the Garrotillo) is as pestilential as a Carbuncle on the hand, or toe, if it be as epidemical, contagious, and mortal. So the Chin-cough may be pestilential upon the like qualifications : and I believe that to be the disease whereof Ballonius speaks, that it was Epidemical amongst the Children in France in 1579. He calls it *Tussis Quinta* , and admires how it came by that name, and so doth his Scholiast Mr. Thewart: undoubtedly it was transmitted from England, and thence came that name, which the French mistook for *Tussis Quinta*, and *Quintana*: that is the disease I am sure he describes: he saith none ever writ of it : and I believe it to be true as to forreign Physicians. Such mistakes will hereafter make work for Criticks; who will make strange glosses hereupon, as on the *Milordus* of H. ab Heere, and the *Cerevisia Tribopenina* in *Mercatus*; the first imports no more by *unus ex iis quos Angli Milordus vocant*, then one whom the English call *My Lord*: and the other intends nothing by *Cerevisia Tribopenina* than Three-half-penny Ale, and contradic-

Bapt. Codron.
chium de
mort vulgaris. c.
Ib. Crato assert.
de febre pestis.
p. 13.

Aetius Cletus
de morbo
Strangulator.
c. 2.

Mercatus,
Consult. med.
14.
Dudibius in-
ter Epist.
Scholastici.
Ep. 51.

Ballonius
Ephemer. l. 2.
p. 237.

Mercator. de
recto med.
pr. usd. usul. 1.
c. 2.

to resume my discourse; I add that in such times as there are diseases of sundry types, and several symptoms, so as that they may seem to be different and sporadical diseases only, yet in case they be malignant, vulgar, pernicious, they are to be accounted either as so many Pests, or as one, under several disguises: for it is not always true that in the time of the Pest all other diseases cease, as is evident out of Hippocrates:

Hippocrates
Epidem. l.3.
eum notis
Velleſſi. p.279,
280, 281.

Wierus Obs.
l.1. de epidem.
pleurit. &c.

Vander Myo
de morbis
Bredani, p.4,
5.

Alex. Maffor.
de pest. l.1.
inter opera.
p. 510, 511.

Neuerantzii
de purpure,
p. 65.

"Purpurae venenata qualitas intro con-
cepta, ut tota specie nobis adversa, ita ad morbos totius
substantiae merito refertur. Quamvis enim ultro con-
cedamus nullum sere morborum aut symptomatum genus
dari, quod non in purpura sese offerat: isti tamen
morbis consuetis non cedent remediorum: & in singulis
morbis ac symptomatis peculiare atque abditum quid
apparet, quod experto & prudenti Medico supra for-
tem iſtorum, sed simplicium, morborum esse, imo a cæ-
teris similibus totius substantiae morbis se vindicare,
totoque genere inimicam illam qualitatem, in qua effen-
tialis morbi hujus proprietas posita est, manifesto decla-
rare videatur. Sic lues venerea nulli non morborum
conjugitur, qui tamen non illis consuetis remediorum, sed
alexiteriorum

alexiteris junctis se curari postulant, adeo ut plerumque fallant non solum agrotantes, sed ipsos etiam medicos, docente Fabio Paulino lib. i. comment in pestem Atticam Thucydidis, p. m. 37. Idem in Scorbuto Artis locis medicinam facientes experimur, qui cuncti libet morborum & symptomatum conjungi solet, ut nullis in reliquo corpore sceleribus indicis morbi qualitas uni membro impressa aliquando hæreat, medicos non raro ludat, curationemque moretur.

Under the aforesaid Definition of Pests I include all those that are called Pestilential feavers, such as the *Sweating sickness*, *Hungarian* and *Spotted feaver*, the *Hottick* and *Semitertian pest*, of which you may read in Schenckius: for by the doctrine de Conjugatis, a Pestilent Feaver is a Feaver that bath the Pest. This is not meerly a *Logical Quirk*; several Practitioners averre it: and particularly Mindererus: whose words in opposition to such as distinguish betwixt a pestilential Feaver and the Pest, are these.

Febris pestilens (ut illorum distinctione utar) aut vera est, aut non vera; si vera est, nil aliud est nisi Pestis ipsissima; & ut dicitissimus Hieron: Mercurialis loquitur a vera peste inseparabilis: si non vera, jam nihil vel parum commercii cum peste habebit, & sic pestilens non erit, nisi ob similitudinem aliquam symptomatum (quod forsitan Galenus voluit) ita eam appellare placeat, & sic inter malignas annumerabitur: quod si gradum intenderit & vere pestilens effectu fuerit, nil nisi pestis erit: alioquin simile esset dicere hic Saxo est aut Suevus, ergo non Germanus: aut hic Hetruscus est ergo non Italus. Unde febres malignas quoniam & aequivoce pestilentes quandoque dici observandum. i.e. A pestilent Feaver (to use their distinction) is either really such, or it is not so: if it be really such, then it can be nothing but the Pest it self, and as the learned Mercurialis observes, no more distinct therefrom than it is from itself: if it be not such really, then it is not to be ac-

Schenckius
Obs. Medic.
l. 6.

Raymond.
Minderer. de
pest. c. 6.

counted pestilential, except you please to *nick-name* it so by reason of some resembling symptomes (which it may be was the sense of Galen) whereas it ought to be reputed only malignant, above which degree if it rise and become truly pestilential, 'tis nothing else than the Pest : And to say otherwise is as absurd as to argue, this is a York-shire or a Devon-shire man, therefore no English-man. From whence it is evident that Feavers purely malignant are but equivocally stiled pestilential : and all that are pestilential are sorts of Pests. Thus when Pestilential Pleurises, Squinancies, Cholerick passions, Lethargyes, Erysipelas's do rage, they loose their usual denomination, and become so many Pests (or the same) attended with a Pleurise, squinancy, Cholerick passion, Lethargy, or Erysipelas, &c. And then those otherwile formal diseases become but symptomes, and accidental consequences of the Pest which vary not the essence thereof. Nor is it necessary to the truth of the Definition, that all these Pests should be actually Epidemical, or afflict all sorts of men; or be always equally mortal: for the Spotted Feaver is as much included here, though it extend no further than one single person, and so is a pestilential Catarrh, or Cough, as our Physicians include the Plague (commonly so called) under Epidemical diseases, though sometimes it extends not its contagion beyond one family, or destroy but one person. It hath happened that a Pestilential Peripneumony accompanied with spitting of blood was more fatal than any vulgar Plague ever heard of: Such was that in 1348. written of by Guido de Cauliaco (who lived then) it posted from the East to the West, and scarcely left surviving then the tenth part of mankind, if so much. And the Spotted Feaver hath sometimes been more pernicious than the Plague in France: Again, I must lay that sometimes even these Pests may not be pernicious or mortal: Such was that Pestilent Epidemical Cough in

Id. ibid.
Neuron qm
de purpura
c. x. p. 150.

Neuron. de
purpura, c. 3.
p. 35.

libr. a Diem-
brook de Pest.
l. i. c. 1. §. 3. &
c. 2. sect. 3.
Minderer. de
pest. c. 6:

Schonckius
Obs. med. l. 6.

Cognatus de
febr. purp. c. 5.

1580. which over-ran all Europe, yet, as sick as men were, there dyed not one of a thousand: yet doth not this derogate from my opinion, since not only those that write of it do allow it to have been pestilential; but even in the vulgar Plague, where it is expected most should dye, at Millaine in 1576. and 1577. Septalius, who was Physician in it, records it, that many more survived than died at that Visitation: yet, says he, would I have no body to deny it the title of a Plague, for it had all other signs of the Plague.

There is a great *discrepancy* betwixt the violence and *symptomes* of the same pestilential disease in its beginning, progress and end; betwixt such a *disease* (to appearance the same) when it rages at one time and at another, in one season of the year and in another; upon some sorts of men above others, and some Nations above others (though living together, and using the same dyet and course of life) whereupon *circumspect Physicians* maturely considering that this variety cannot be alwayes imputed to the *discrepancy of dyet*, or *difference of seasonableness* in years, or such like circumstances, they have allowed of a great variety of *venomes*, or *gradations of putrefaction*, and esteem these *Pests*, though they do agree in one generical nature, and some resemblance of *symptomes* and effects, yet to arise from different *poysons*, or *graduations of putrefaction*; and hence it is that no two Plagues are ever almost cured alike; nor is it possible for to find out one *universal Antidote* against them all: As in *poysons* some are *Septic*, and *Arsenical*; some of another nature, as the *poison of Scorpions*, *Vipers*, the *Serpent Dipsas*, &c. of *Napellus*, *Aconite*, &c. so in *Pests*, by the effects, it is no vain fancy in the *Paracelsians*, and *Quercetan*, or *Mindererian* to guess that there is a variety of *venomes* in qualities corresponding much with those known poisons, and analogous unto them. His consideratis, obseruatoque variarum pestilitatum diversis locis ac temporibus.

*Wierob. Obs. 2.
de pestilenti & epidemica
tutti & fore-
bus Obs. 1. 6.
obs. 3.
Is. Sporischius
de febre Epid.
c. 4. p. 128.
Vallensi in
append. ad
loc. commun.
c. 2.
Septol. de Pest.
l. 1. c. 14. p. 23.*

*Quercetan:
redivivum.
Art. medic.
pract. p. 39,
40. &c.
Minderensis de
pestile. c. 3.*

poribus grassandi modo, magistra rerum experientia docet, venenum pestis adeo esse varium & diversum ut singulæ propemodum pesti suæ sit peculiaris juncta maliitia inferenda neci sufficiens, cuius discriminem a nocendi modo & symptomatum varietate petendum sit. Diligentissime proinde hæc venenositatis & pestis animadvertisenda, & curationem suscepturis observanda. Et enim si pestis graves somniculositates, ingentes sapores Lethargos & comata invexerit longe aliter tractari sece postulabit, quam si vigilas inquietudines aut ingentes cordis fuscitates intulerit. Venenum enim pestilentiale modo Dipsadis, modo Vipera, modo Cicuta, modo Næpelli aut alterius exhibiti toxicæ naturam emulatur, cui in curatione singulari diligentia attendendum.

Prout igitur his, per peculiaria ac cuique propria a tidota succurrimus, ita & pesti, modo per hæc, modo per alia alexipharmacæ obſtendum admonemus.

Et nos quandoque hæc ipsa studiosius considerantes, pestem ab exhibitis venenis aut animalium venenatorum citius morbi ac percussione immisæ vix quicquam differere cognovimus.

Concerning the Spotted Feaver was observed by that solid and circumspect Practitioner Paulus Neucranzius. An etiam purpurati veneni essentiae diversitas variare purpuræ symptomata poterit? Ita censeo. Namque ea late admodum patet, & universo ambitu venenorum fere circumscrribitur, variatque ut illa varia & prope innumera sunt. Hinc plerumque continua rum febrium indolem euentitatis interdum anginæ malignæ epidemia, pleuritidis, colicæ, alteriusve morbi specie, singulari quasi partium deleſtu, affigere, atque hujus aut alterius veneni deleteriam vim emulari vindetur, ut morbum hunc novis plerumq; symptomatibus emergere medici obſervarint. Ut enim in peste varietatem veneni memorant Auctores, qua eadem interdum Antonii, interdum Arsenici, Napelli, aut alterius venenatae materiae virus exprimit, symptomatum similitudine, & alexi-

P. Neucranzii de purpura, c. 6.
p. 69, 70.

alexipharmacorum diversitate : ut quæ uni pestilenzia
 saluti fuere, succendentibus annis in altera peste consue-
 tot effectus negent ; ita & in purpura ac malignis se-
 briis eandem affectuum diversitatem, nec eadem re-
 media semper prodesse advertere licet. Sed nec diver-
 sis solum temporibus purpuram diversos characteres ex-
 primere, sed in una & eadem Epidemica constitutione,
 modo hos, modo alios referre, credendum, eadem essen-
 tiali sed specialissima veneni diversitatibus, quant specie
 ab altera variat, ita pro indolis sua conditione diversa
 symptomata procreat, emula & bic manupestis con-
 stitutione, in qua in eadem tempestate diversos specie
 morbos, qui ex illa maligna aeris impressione pernicio-
 sam vim acceperint, grassatos fuisse notum, ex epidem.

l. 3. sect. 3. I might illustrate this further by the difference betwixt the Sweating Sicknes, and other Pests at one time, and another : But I have said enough to shew that notwithstanding my Definition, I do allow that Pests may not always be equal or equally pernicious, or equally contagious, and yet retain their name : there may be such different degrees of venoms, or that superlative putrefaction, and yet the species not be varied. I speak dubiously about the terms of venomous and superlative peculiar putrefaction, because the case is intricate, what to call it. I know the Philosophy of this Age, which consists most in Similitudes, will more approve of venomous; but if it be hard to defend Putrefaction in order to the production of Pests, 'tis no less difficult to illustrate Contagion by Poisons; and in reference to the practise of Physick in Pests, I think I can demonstrate that the Galenical notion of putrefaction is the most usile. Some men think they make a great improvement in a Science, if they illustrate it by a new Metaphor, or introduce a novel term, the import whereof is no more emphatical or perspicuous than the former; yet this must be deemed a new discovery, and by the imputation of ignorance, Students are deterred from reading the best Authors. Thus

thus we climb downward, and advance as much as he
that turn'd Donne's Poems into Dutch.

It remains now that I proceed to define the Plague
in that sense to which it is in vulgar speech restrained:
and amongst the several definitions that are given of
it by judicious and experienced Practitioners, I shall fix
upon that of Mindererus, as the most exact and con-
formable to the reality of the Phænomena.

Mindererus de Pest. c. 6. The Pest is a venenate malady, very deadly,
and contagious, primarily affecting the Heart,
and commonly attended with a Feaver,
DOCTEH, Carbuncle, and Spots or Co-
kens.

This Definition whosoever would see well illustrated, let him read the Author, and also *Ibrandus a Dierbroek*, *Palmarius* and *Queretan*: not to mention others. It appears evidently hereby that this Pest is but a species of that other more general notion: It ariseth from a peculiar sort of putrefaction, or venome, and though it have symptomes different from its contradistinct species, though it be peculiarly called the Pest, the Sickness, the Plague, ομηρία, νοσος ομηρία, νοση, ιλ morbo, la malady; and such as make it a superlative putrefaction, to shew that it is but of a different degree from the others, may alledge that sometimes malignant pestilential Feavers have turned into this Pest naturally, or upon an evil method of curing. Exact Definitions are no more to be insisted on in Physick, than in Law; 'tis enough that they are commonly true, and that a judicious Practitioner knows when they hold, and when they fail. I have demonstrated that the Plague (so called vulgarly) is not so pernicious alwayes as the spotted feaver, or pestilential peripneumony: it is not alwayes contagious. "Tales sunt *Li c 12. § 4. illæ febres, quas Galenus, 3. epid. comm. 57. & alibi, pestilentes*

Schenckius
obs. 1. 6. &
Hieron, Rube-
sa in C. Celsi-
L. 3. c. 7. p. 143.
Rivetum
prox. 1. 17.
lect. 3. c. 1.

libr. o Diemb.
L. 1. c. 1.

pestilentes sine peste vocat, quales se non raro observasse
 testatur Amatus Lusitanus cent. 7. curat. 27. Imo P. Zaccius
 Quercetanus in Alexio. & Riverius sicc. 3. de febr.
 cap. 1. dicunt hujusmodi febres non semel visas fuisse
 cum vera peste indicis (puta Anthracibus & Exan-
 thematibus) & tamen a vera peste longe diversas fu-
 esse, quia non erant contagiosæ. Has febres Saxonia
 & Riverius appellant Pestilentes sporadicæ; Crato
 & Liddelius, pestilentes privatas: alii pestilentes
 spuriæ. — I shall add a passage of Crato, which is
 not that to which this Author refers, but which He, who
 lived so long, and was so competent a Judge by the Ex-
 perience of many pestilential diseases, as his dying words
 doth import to the World: “ Initio vero hoc tenen-
 dum, quod supra etiam monui; pestilentes morbos hoc ^{to Crato assert.}
 quidem habere proprium, ut sint plurimis perniciosi,
 graves & lethales. Ut autem per contagium com-
 mucicentur, nisi putredo ad istam malignitatem in iis
 divenerit, ut morbidam expirationem transmittant in
 alia corpora, non necesse est. Plurimos enim interire
 nullis prorsus contagionis indicis extantibus, appareat.
 Pestilentes igitur privatos, nisi putredo in iis orta mor-
 bidus expiret, astantibus innoxios esse affirmamus — ^{Id. ibid. p. 20.}
 Accedit ad hoc quod nostra quoque ætate in multis regio-
 nibus orientalibus & Meridionalibus, Pestilentias plu-
 rimis exitiosas fuisse constat: in quibus neminem con-
 tagione contaminatum, nec ullos a consuetudine agro-
 tantium refugisse legimus. i. e. In the first place it is
 to be held for a certain truth, that pestilential diseases
 have their properties, that they are deadly to most, being
 very afflicting, and mortal. But that they should be
 contagious, it is not necessary, except the putrefaction
 be come to that height as to produce such a morbid
 exhalation as may infect other bodies. For it is most
 apparent that many dye, and yet there is not any sign
 of contagion to be demonstrated by its proper effect,
 of having introduced the like sickness in others.

We do therefore avow, that those we call *private Pests* do not prejudice or infect those that attend the sick party. —— Besidés, even in our Age several deadly Plagues have destroyed multitudes in the Eastern and Southern Climates of the World, which yet have not diffused themselves by *contagion* unto others, so that none have declined to converse with the sick.

Whereas it is said in the Definition that it *primarily affects the Heart*, it is not to be understood so constantly, though generally a great *debility and disorder of the pulse, and prostration of the strength ensue*: for sometimes an *indisposition in the Stomach* is the first sensible symptome the Patient feels: and sometimes the Head is first and *primarily affected*, as in those that are *Lethargical and Soporous, or Vertiginous*. I read that *A. Paræus* going to visit one sick of the *Plague*, and hastily taking up the *bed-clothes*, that he might see and dress a *Bubo* which he had in his *groin*, and *two Carbuncles* upon his *belly*: presently a sudden thick, noisome vapour issuing from the *Carbuncles* that were apostimated, and broak, pierced his nostrils and discomposed his brain, so that he swooned away, and fell as it were dead and senseless upon the floor: afterwards coming a little to himself, he was giddy, and every thing seemed unto him to turn round, so that he had fallen to the ground again had he not laid hold of something whereby to support himself: All the comfort he had was, that he found no indisposition about his heart, no pain, no palpitation, nor any sign of any powerful and fixed debility of his strength. Which confirmed him in an opinion that only the *animal spirits* were tainted with that pestilent exhalation; in which he was more satisfied, by reason that he *sneezed* presently ten times with so great a violence, that his *nose fell to bleeding*, and *that evacuation* (as he thought) freed him from the *venenous impression*: for he felt no other ill effect afterwards.

*A Proem
Chirurg. l.21.
c. 12.*

In that I say it is commonly attended with a Feaver; it is upon the grounds already alledged: I add that P. Paaw the great Physician at Leiden (in those Provinces the Plague is frequent) denies that the vulgar Pest is to be defined by a Feaver. For it is not an *usual* Feaver, neither *sanguine*, or *putrid*: there happens oftentimes no signs of either of those in the Plague. It is not a *malignant* Feaver; for neither is the *type* and *characterisme* thereof to be discovered here, no nor the *least sign of heat* frequently. You will say that sometimes 'tis a *common* Feaver, sometimes *malignant*: but neither is that *true*, for albeit *frequently*, nay, for the most part it be accompanied with a Feaver, sooner or later, yet is that but a *symptome* thereof and *separable* from it: they have different originals; the Pest a *venome*; the Feaver a *putrid heat*. All poysons do not ingender a Feaver in him that takes them: why should we think otherwise of *Plagues*? In short, Experience shews that sometimes there is no *sense* of any *great* or *unusual heat* in the infected, no *thirst*, no alteration in the *Pulse*, *Urine*, or *Respiration*: wherethat which is *essentially consequent* to a Feaver is not to be found, 'tis but reasonable to deny the *antecedent* to be there. I refer the *unsatisfied* for to be further convinced by Sennertus.

P. Paaw tract.
de Pest. c. 2.

Sennertus de
febr. l. 4. c. 1.

As to the *Botches* about the *Ears*, *Arm-pits*, and *Groin*, and the *spots* (or *Tokens*) and *Carbuncles*, those are so no necessary to this Pest (though many die before any appear) that the *populace* is rather *suspicious*, than *convinced*, till they be seen.

Having premised this *long discourse*, which I hope will seem neither *useless*, nor tedious to any Reader, the *solution* of the ensuing *Questions* will be brief.

Concerning *Plebotomy* in the Pest, whether it be *useful* or *legitimate*, it is a question not to be resolved otherwise than by distinguishing upon the Pest: If it

I a be

be taken in a general sense, I answer that it hath been frequently practised with great and visible success in several Epidemical, contagious and frequently mortal diseases, as the (a) Spotted Feaver,

(a) *Coyttarre de purpurat.* febr. c. 12, 13.

Pervm a Cofro de febr. puncticular. febr. 6. & in dedicatoria epist.

Dilect. Lysian de venæ febr. c. 9. art. 4. p. 119.

Sepial. de Peli. l. 5. c. 17. p. 217.

(b) *Bantholin. de Angina puer. exercit. 5.*
Deverin de abscessi p. 449.
Menitis consult. 14.

(c) *Gabelhoover. cent. 5.*
cur. x. in scholio.

Ruland de febr. Ungavic. p. 270. & alibi.

In the (b) *Pedanchone or strangulatory disease of the Children in Spain, Sicily and Naplēs:* In the (c) *Hungarian Feaver also:* and in *Epidemical catarrh* (when it was in Holland) *Forrestus* did with great success bleed, in 1580. Obs. Medicin. l. 6. obs. 3. But I must also say, that our Experimental Physicians in these cases do sometimes interfere one with another; and at least it is manifest that most of those diseases have been cured without bleeding: that it is to be administered with great caution; yet is it never more true that *Medicaments*

are as it were the *bands of the Almighty*, then when in such diseases *Phlebotomy* is prudently used: all circumstances must be duly weighed to the *administration* thereof; and there are so many *fatal instances* of the *evil success*, that though they are ballanced by *contrary Experiments* made in all *Countries*, yet ought the *wisest* to be *timorous*; and the *ignorant* ought to consider, that since in such diseases most die by the violence thereof (and this is their nature) it ought not to seem strange, if *Phlebotomy* prove as ineffectual, as other *Remedies* do. In such diseases, 'tis not rashly to be attempted in the *beginning* of the disease (as *Coyttarus* in his excellent discourse observes) but when it is in his *progress*, and that the *nature* and *tendency* of the *poison* is manifest, and the *strength* of the *Patient* better judged of, if *indications* require it; nothing is more beneficial; not that it is then *administred* to evacuate the *poison* (as our *ignorant Helmontian* doth suppose) but to allay the *putrid Feaver*, and *concoct* it; for *revulsion in pestilential Pleurises*, and *Squinancies*,

(wherein

(wherein each wise man divides his cares betwixt the malignity and the disease it self) to prevent further putrefaction or those inconveniences which some direful symptomes menace the Patient with.

In the more limited sort of Pest, commonly termed the Plague, as the disease is usually more pernicious than in those others, so do Physicians multiply their fears, and Patients their suspicions. They are much divided upon the point ; and though the generality of modern Writers oppose Phlebotomy, (or suspect the good issue) nor can the happy instances for the contrary (though they may be alledged in all Countries) suffice to imbolden the present Age. The happy practise of *Botallus* is not regarded : *Maffarius* (as learned and as well versed as he was in the Plague) is not able to convince men : Not *Rodericus Fonseca* at *Lisbon*, not *Septalimus* at *Millain* ; not the cautious *Forrebus*, who let them bleed in the Pest at *Delph* within eight hours after infection, though it were occasion'd from famine and misery, and that with good success : not the president of *Hosman* in the Plague at *Norimberg* : Not the constant practise of the *Egyptians*, who in all pestilential diseases, and plagues do bleed largely the sick parties, as *Prospere Alpinus* relates ; and whose example and experience did so convince him, that in that excellent Book of his de Medicina Methodica he thus expresseth himself for the cure of pestilent Feavers, and the Plague.

Itaque laxata a vo lenitorio Pharmaco,
ad vacuationem sanguinis declinandum. Primo secta
interna vena cubiti dextri in ea copia mittatur, quam
vires permittent : & in altero die, si corpus sanguine
abundaverit, & vires permiserint, ex altero brachio
evacuatio sanguinis erit repetenda : in pueris, & in
viris, & mulieribus albidiioribus sanguis mittendus
itidem erit copiosus cruribus scarificatio, ex qua sca
rificatione, facta sanguinis evacuatio in febribus pe
stilentibus est utilissima, quia cum ipsa quantum san
guinis

Eliot. Arbor.
in C. Col.
fam. 43. c. 7.
p. 140, 141.

Botallus de
veneficio.
ne, c. 7.
Maffarius de
Pest. l. 1.
Roderic. a
Fonseca in ap-
pend. ad
Iacobini de
febre. p. 354.
Septal. de pest.
l. 5. c. 14.
Forrebus Obs.
l. 6. obs. 17.
C. Hofmann.
Anti Fernel.
lemon. 64.
Prospere Alpin.
de medic.
Egyptior. l. 2.
c. 7. p. 54.
Prospere Alpin.
medie. meth.
l. 5. c. 9.

c. quinque volumus, evacuamus, sine virium magna jactura
 c. (quod e longinquis partibus educatur) sine violentia, &
 c. quod maxime in hisce febribus videtur desiderandum,
 c. quoniam ex ea evacuatione a supernis partibus ad infer-
 c. nas fiat revulsio: Unde mirum non est, si nos sepius
 c. in hisce agrotis vigiliis, vel dolorem capitis, vel deli-
 c. rium, vel surditatem, vel aliud symptomam simile con-
 c. tinuo sublatum viderimus, praesertimque si copiosa fa-
 c. da fuerit evacuatio. De hac Oribasius ita scripsit:

In lib. 7. c. 20.

c. Et sane dum pestilentia vehemens Asiam deprehendis-
 c. set, multosque perdidisset, meque etiam morbus attigis-
 c. set, secunda morbi die remissione febris facta, crus
 c. scarificavi, duasque libras sanguinis detraxi, hacque
 c. de causa periculum vitavi. In pueris & infantibus in
 c. quibus una cum pestilenti febre vel exanthemata vel
 c. variola apparuissent, perpetuo summan utilitatem ab
 c. hac evacuatione subsecutam vidiimus; qua Egyptii
 c. Arabesque nullum utilius praesidium in hisce febribus
 c. esse longa experientia cognoverunt. Not all this can
 either justify or excuse a Galenist unto these Helmon-
 tians: I add the opinion of Erastus who lived in Ger-
 many, which Climate and Nation may seem to corre-
 spond better with the English; after he had given his
 reasons for Pblebotomy administered in the beginning, in
 plethorick bodies, and where nothing doth contra-
 judicate, especially in such as were used to bleed, or had
 any sanguinary evacuation at the nose or other parts,
 stopped on a sudden: and after he had refuted the
 Arguments of such as would cure the Pest in his time
 with Alexipharmacis and sweating only; he adds,

c. Evidem una consuetudo fere praestare videatur, ut
 c. nostris hominibus vena setio in hoc morbo minus no-
 c. cere videatur. In hac peste prorsus multi ex rusticis
 c. vicinorum pagorum nullo alio remedio affugerunt. I
 might cite the judgment of many more in this case, as
 Rondeletius, Mercatus, Trincavellus, Jo. Costeus,
 Altomanus, Pereda, Andernacus, Sarracenus, Massa,
 Mongius,

Th. Brahma
epist. 25.

Mongius, Paschalius, Mercurialis, Zacinus Lusitanus, Citantur ab
Bayrus, Carolus Valesius du Bourgdiem, Joel, Thevartius Librando a
 (upon Ballonius's Epidemia p. 50, 51.) Hieronymus de pest l. 3.
Rubens upon Celsus: Of the Ancients *Aetius, Avicenna, Avenzoar*, and that Latine Hippocrates. *C. Celsus* Diemerbrook
 who particularly sayes, *si vires sinnunt, sanguinem mittere optimum est; praeципueque sic cum ardore febris est.* But I conclude with this assertion, that in the
 Controversie about Phlebotomy in the Plague, the number of them that defend it exceeds that of those which oppose it, and their learning, judgment, practise, the reasons, the Experiments they alledge at least, equals what their Adversaries can pretend unto: Some Arabians have advised in the beginning of the Plague (before the disease hath impaired their strength) that the infected should bleed even until they swooned: And *Platerus* informs me, that some having pursued that counsel avow that they have cured many, and therefore dislike all minute Phlebotomy in comparison of that which is so copious: thus *Bayrus* in his Treatise of the Pest commands, that if the Patient be robust, plethorick, and the pestilential Feaver be accompanied with a violent putrid Feaver, he bleed largely. But to deal candidly in this affair, I do think that of the Germans the most are averse from Blood-letting in the Plague, and depend upon Sudorifics.

Because our Helmontian doth so opiniater it about the Plague, and would reduce all Feavers (almost all diseases to be cured like it) and insults over the Galenists for their ignorance in the cure, and upbraids them with their ill success in that malady, I shall briefly represent some of the reasons of their evil success; and the arguments they urge against sweating in all Pests,

Cæterum in contrariis sententiam abeunt complures alii, iidemque doctissimi Medici, docentes omnino fecundam esse venam, nec minores pauciores adducunt felices successus. Hieron. Rubens in *C. Celsus*. l. 3. c 7. p. 140.
Maffiar de Pest l. 2. (inter opera) p. 531.
F. Platerus de febre (inter opera) p. 161.

Reflux, in the beginning, and process of the cure; as also sum up their practise about Phlebotomy.

When I consider the general desolation which the Plague hath made in all parts of Europe, notwithstanding the various wayes used for the cure thereof, and that Germany and the Netherlands can no more boast of an infallible cure, nor of a better success than Florence, Venice, Rome, Naples, Paris, or Sevill, methinks it is apparent that the recommendation of Medicaments or Methods of curing in the Plague ariseth from the observation that some by the happy use of such a course, or such a Medicament, have (perhaps amidst dangerous and seemingly deadly symptomes) been recovered: And herein Septalius, and Massarias, and others, say as much for themselves, as Mindererus, or Sennertus: And what Celsus saith of Hippocrates, Herophilus and Asclepiades. I cannot but call to mind when I reflect on the several Methods of Physick endeared unto us by judicious Practitioners: *Si rationes sequi velimus, omnium posse videri non improbables: si curationes, ab omnibus his agros perditos esse ad sanitatem.* So just I am to those excellent Practitioners: It is certain that in Physick we do oftentimes commit the Fallacy of *non causa pro causa*, and attribute those effects to one Medicament, or Method, which either did but accidentally ensue thereon, it contributes nothing to the effect (but only happening to be insisted on at or before the time that the Phænomenon discovered it self) or only removing something that hindered the natural production of the effect, or only acting as a partial cause therein, or merely strengthening or making room for nature that the effect might more easily result. Thus we directly yield the glory of one or more successful cures to a wrong original, and delude our selves and others not only with vain hopes in the remedy or method, but with new Hypothesis raised upon these frail foundations, and with the

C. Celsus in
pref. Medi-
cine.

the same levity reject the Medicaments and Methods of others, with which we celebrate our own ; nay often-times with more ; for those foundations are most sure which are laid by the most men, if they be judicious and observing, and have endured the test of more ages and tryals. If presumption and arrogance could have entombed the Pest, the most insolent but worst of Physicians, that is *Van Helmont* had secured man-kind against its ill effects : and what man could have dyed, or languished under the *Gout*, or other Chronical distempers, if the *Rhodomontades* of *Paracelsus*, *Penalitus*, *Severinus Danus*, had contained any solidity ? But experience hath shewed us that we have only exchanged, not amended our practise, the Tinctures, the Essences, the Elixirs, however graduated, or how gloriously soever denominated, do not exempt us from that condition humane nature is subjected unto ; the general intentions of curing *cito*, *tuto*, *jucunde* are old : the performance now answers not the pretenses : the *Athanasia*, *Jucunda*, *Mysterium*, *Ambrosia* (of which you may read in *Galen*) If I were to chuse my Medicaments by the sound they make, would seem as good as the *Anima Auri*, *Tinctura polyacria*, or *Pulvis pestifinus* ; and better than the *Alexistomachon*, for that like Αλεξισθαυτη, Αλεξιων, Αλεξηπερη, would affrighten me, as if it were a Medicine to drive away a mans stomach. And if I were to word my discourse I would more willingly use a known tongue, than an unknown, and write secretary rather than the Universal Charsier : If I cannot acquire knowledge above others, there is more of vanity than glory in the ostentation of a new-fashioned ignorance. I write this because I am convinced, because I do not believe that there is any thing more intelligible in the modish word *Venomis*, then in the profound, sordid or superlative, putrefaction wherein the Galenists placed the Pest : If such a putridity be unimaginable (which yet is but

graduated above what we see, and unto which 'tis evident that diseases sometimes *gradatim* do arrive) it is certain that there is no such thing as the *Arsenical* or *Napelline poysor* in the Pest; but somewhat forsooth *Mindererus de Analogous* thereunto, as *Mindererus* and *Sennertus* assure us: and here we are put upon *Gradations* again by which *Ceruse* and *Lithargyre*, *Napellus* and *Tithymal*, *Cantharides* and *Dipsas* are to be *transmuted* into, or graduated up to *Arsenic*. Most assuredly in this Age the *Chimæras* have exchanged their *pasture*, and being *cloyed* or *starved* with feeding upon the *Second intentions*, they are now luxuriously dieted with *Metaphors* and *Similitudes*. I would not therefore have this following discourse to be construed as an *Apology* for the failures of the *Galenists*, but of all *judicious Practitioners*, even of different principles, who intermeddle with the *Plague*.

Samen. de lebre l. 4. c. 1.

Anton. Beni-venius obs. Medicin. c. 54. M. Florentius in notis ad P. Poore de pest. p. 154, 155.

The first reason of their *miscarriage*, is the *difficulty* or rather *impossibility* of discovering of the *Plague* oftentimes in its *first approach*, and sometimes the *disease continues* and makes a progreſs *hopeful* and *promising* for several dayes: and then manifesteth ſelf in the *sudden death of the Patient*: of the *truth* hereof I need no instances: the only care a *Practitioner* can ſhew is (after that *frequent Funerals* have informed him of an *approaching* or *raging Pest*) to tend his *Patients* whatever the *distemper* be (little or great) as if it were the *Plague*: and yet that this *supposition* is *fallacious*, I can demonstrate out of the *Hiftories* of *several Plagues*, particularly that of *Vicenza*, and *Breda*. Here then our *Physician* is no more to be *blamed*, than he is for not being an *Angel*, or a *Deity*.

Another reason is, that the *sick parties* do not come to our *Practitioner* upon the *first* and *smallest* *sense* of the *disease*; for after the *Pest* hath feised upon them a few

few hours (eight or twelve hours) Sennertus himself could not cure one in an hundred : and of this *Sennertus de febre. 4.c.6.* *febris* complains (who was for bleeding) that most that died came not unto him till that the Plague had too far seised their spirits , and debilitated them so as to render all means ineffectual , though he tryed *Sudorifics* , *Erotes ep. 25.* and complyed with all *Hypothesis* in his practise . I must p. 90. here note that the diversity of *Plagues* , as to their na- ture , and continuance , makes a greater latitude in the opportunity or timing of Medicines , than to restrain it to eight or ten hours ; but this cannot be known till the Plague hath lasted some while .

A third reason is the great difference betwixt the Nature of one Plague and another , so that neither one Method nor the same Medicaments will serve in all Pests , no nor in any two hardly : besides the particular diversification which the Pest receives according to idiosyn- crasy and constitution of each infected person . And for this reason Nicolaus Ellain in his Treatise of the Plague (commented upon by the renowned Guido Patin) refused to write down a special cure of the Pest in that book .

Quantum ad curationem spectat , eam attingere nolui , quia periculissimum est ex solis universalibus regulis curationem instituere , idemque calopodium singulis quibusque adaptare . Juris peritorum effatum est , Theorias generales non informare animum practicum , qui consistit in singularibus . Si hac proposatio in jure vera existit , potiorem lucum in Medicina habere debet , in effectu presertim adeo anomalo atque insolenti , cuius ut Protei , nunquam facies eadem est . Nulla enim pestis alteri similis est , nisi in uno , quod scilicet ea correpti maximam partem intereant . Constanter opinio est , tot ferè species morborum pestilentium esse , quot annorum , quibus in vulgo graffantur . Varians proinde curatio ex officiis , causarum symptomis , sumque varietate : ratioque habenda temporis , regionis ,

*N. Ellain de
pest. apud
Guibet. Med.
Offic. p. 533.*

sexus, etatis, temperamenti, peculiarisque cujusque naturae (quam Graci idiosyncrasiam vocant) plurimque aliarum conditionum a Medico expendendarum.
 Insignis igitur abusus foret in peste curanda eadem uti Methodo. i. e. As for the cure of the Plague, I would not intermeddle with it; because it is a most dangerous thing to form a particular practise out of general rules alone, and as it were to work all peoples shooes upon the same last. It is a Maxime amongst the Lawyers, that General theories do not accomplish a Practitioner, whose business lies in particular and promiscuous Cases. If this be true in Law, I am sure it ought to hold good in Physick, especially in a disease so anomalous and so seldom happening, as this is, and whose Type is as changeable as that of Proteus, never exactly the same. For no Pest ever was like unto the other perfectly, except it were in this one qualification, that most that are infected dye thereof. It is a constant opinion in many, that there hath been, and always will be almost as many sorts of Pests, as there have been, or can be Pests: And therefore the cure thereof must be varied according as the disease, its causes, and symptomes vary: and particular regard must be had to the season and course of the year, the country, the sex, the age, the temperament, and the individual constitutions of persons, and many other circumstances which a judicious Physician must consider. Wherefore it would seem an abuse and imposition to prescribe or follow in every Pest the same Method. The truth of which Assertion is so universally assented unto, that Mindererus doth caution us diligently to attend unto the course and symptomes of the Plague, and to vary our Method and Medicaments accordingly, and tells us that in individual persons (and not only in the Plague it self) we shall find reason to guess that the pestilential poison admits of an unexpressible discrepancy and variety; And partly from its native variety, partly from concurrent circumstances in.

With him agrees Gerardus Columba de lebre. pestil. c. 24. p. 253.

Mindererus de pestil. c. 3.

in the Patient, and *Ambient*, &c. and combination with sundry humours and intire commixing with them, it grows up and is improved into new sorts of venome. And from hence, he saith, ariseth a grand difference in the cure as well as effects of each Pest, so that a multitude of tryals must be circumspetely made, the motion of Nature in the recovery of the Patient observed, and many die, or involuntarily, yet unavoidably, be dispatch'd, before the right Method can be known.

*Hoc enim in incognitis, usu per se evenit, ut non nisi
aliorum damno spiamus, & ex complurium strage quos
morbus perdidit ceteros servare discamus; nihil interim
ludis Medica facultate ab hoc amittente, utpote que plus
studii in incertis observandis, quam in lucidis jam &
perspectis malis, commodo consilio amovendis removendis
que jollicita impedit; etenim & Magistratus ad oc-
cultum furem deprehendendum debita adhibens media,
non minus suo officio fungitur, quam si hunc ipsum
comprehensum, capite plecti aut morte multari præ-
perit.* Since then it is manifest that there is so great a variety in general amongst Plagues, and so great a discrepancy in particular Plagues, arising from individual constitutions and other circumstances, since the different motions of Nature are such, that sometimes it is terminated happily by sweat, sometimes by stool, sometimes by urine, or an hemorrhagy. Since it is a disease that so seldom happens (especially here amongst us) that 'tis impossible for any man to acquire a practical dexterity in knowing, or curing it: there is not any intelligent person will condemn the Galenists, or other prudent Physicians for ignorance; but rather deplore the misfortune of Man-kind which is subjected to so monstrous and pernicious a malady as this is; and by a pious and penitent life rather study to divert the Divine judgment, than to depend upon what is Humane.

Thefe:

These discourses will satisfie any man of the vanity of those pretences of an Universal Medicine for all Plagues ; or of acquiring any superlative skill by the dissecting of one infected Body, or feeling one sort of Plague twice or thrice ; whereas not only each Pest differs in specie , but often in individuo : and undoubtedly , according as the venome , and venenate symptomes differ , so would the several bodies it disfected.

As to the reasons why the Galenists do not suspend the cure of the Pest intirely upon Diaphoreticks , and repeated Sudorifics , I find that they do urge these .

They do conceive that a Physician is obliged to be the Assistant of Nature in all diseases, except it manifestly appear that she acteth irregularly , or by way of such an irritation , as to comply therewith were to destroy the Patient : they know what their Method obligeth them unto ; and what necessity doth often put them upon : that some diseases are cured with more facility than others ; that 'tis the nature of some diseases not to be cured at the same time , nor in the same manner : that as men are oftentimes forced to make the best of a bad market , so in some indispositions they know what they desire , but know not how to effect it , but by means extraordinary , and by a greater difference to the distemper than it is their inclination to submit unto : 'tis not ignorance and folly , nor the want of generous Medicaments , which makes them comply , but a tendernesse of the lives of the sick , and the discharge of a good conscience , which last obligeth him always to the safest way , and not to follow either doubtful and questionable opinions in Physick (which may pass for probable , if that be such against which it is one thousand to one that it is false) or to prescribe Medicaments which the

Scire enim quid fieri oporteat, magis non est, sed quibus rationibus illud efficias, id vero arduum. Galen. 6. m. m. c. 2.
P. Zacciar. Qu. Medico-legal. l. 6. tit. 1. qu. 7. §. 2. id ibid. §. 7. 8 rule

rules of Art and Experience do not *justify*. Wherefore they do imagine that a Physician ought to *imitate* Nature when she does well (and well she does, when she cures the disease) and since Nature doth in several Plagues acquit her self sundry wayes, that therefore they ought not to confine themselves to one: Particularly, since some Plagues have been cured by spontaneous (a) Hemorrhagges at the nose, others by stools, 'tis most irrational to expect that any should do otherwise in so dangerous a malady, than to consider the ulironeous emotions thereof, and accordingly to demean himself.

Secondly: Seeing that (b) all Sweats in the beginning of a disease are rather bad, than good: since in the Plague few or none are ever freed (c) by spontaneous Sweats: since Nature takes (d) another course by discharging it self into the glandules of the Ears, Arm-pits, and Groin: They do not think that they ought to pursue that Method. "Ex his arbitror, patet, Sudores statim ab initio febris hujus per vim adeo calidorum medicamentorum evocatores, non tam utiles esse quam aliqui putant. siquidem spiritus evanescatur, vires dejiciuntur, sanguis agitatur, turbatur, magisque acuitur febris, quod subtile est in sanguine excernitur, sicque crassior intus relicta materia citius & facilius interficit. Idcirco magis videtur factum & consilium eorum approbandum, qui ab his medicinis calidis abstinent; sive fudent agri ab initio, sive non fudent. Certum namque est, Sudorem sponte sub initium morbi prodeuntem, diaphoreticum & symptomatum, non laudabilem & criticum esse.

Thirdly they argue; that since there is such danger least the Patient infected should dye for want of strength before the disease be cured, and that above all others the vital indication to preserve the strength ought

(a) Erasius
epist 25 p 97.
c. 2. & Thes-
aur. in Schol.
ad Galen.
Epidem. p. 50.
§ 1. Schenkens
(ex Parac.)
l. 6. p. 770.

(b) Hippocr.
l. c. 4. Afor.
36, 37, & 42.
Eras. ep. 25.
p. 99.
(c) Eras. epist.
25. p. 97. c. 2.
(d) id. ibid.
p. 98.
Eras. ubi su-
pra. p. 99.

ought to be most prevalent with a *Physician*, and regulate him in the administring of his *remedies*: since the regard hereunto makes them to quit their *usual course* of dyet, and even compel their Patients to eat plentifully, and drink wine ('tis no *Helmontian Proposal*; but transmitted to us from *Antiquity*) they conceive it not fit in the beginning of the *Plague* to debilitate the sick with a *violent* and *tedious sweat* (perhaps to be reiterated twice or thrice in twenty four hours) whereby the *spirits* will be *extreamly dissipated* (much more than in *Phlebotomy*) the *humours* good and bad promiscuously evacuated, and the *blood* and *grosser humours* (which are not exhausted by *Sweat*, and in which commonly the *Pest* is seated, as is manifest from the *Botches* and *Carbuncles*) continue infected still. *Sane spiritus per sudores affatim & copiose vacuari satis indicant prostratae afflictæque vires post longum sudorem: Crasse & inquinatis sanguinis nihil aut particulam exiguum educi, probant accidentia, quæ fere omnia fiunt post sudorem deteriora.*

*Eraff. ep.: 5.
P. 97.*

Fourthly, Though they do very much commend the intentions of such as would presently and without any delay expel the *morbific poison*; yet they conceive that where the *Plague* ariseth from previous evil *humours* congested in the *body* by an *unseasonable year*, *evil diet*, or the like, that then the case differs much from what it is when it is contracted by a *forreign contagion*; and therefore whatever reasons may be alledged in the *last case*, they cannot admit the *Method* as universal: they do apprehend that in the *first case* the *putridity* is *incorporated* and become as it were *innate* to the *mass* of *blood*, and is no more to be eliminated by *Sweat*, then *mustiness* in *drink* is exterminated by its *working out the yeast*: Besides, they do not perceive that the sick receive such benefit when Nature discharges it self into the *Skin* by the *Spots*, or *Tokens*, that

that they should imitate that operation by promoting sweat: they are afraid that potent *sweats* may divert Nature from her usual and intended course of discharging it self into the *Glandules*, and whilst a double evacuation is purposed by the Physician, the Patient may find the benefit of neither, the sweat being so powerful as to disturb that other motion; and the humours in which the *venome* is incorporated being so gross (why else should Nature never take the more facile and expedite way of the *skin*, but the more difficult of the *Glandules*?) as not to be exonerated in that manner.

Lastly, Supposing the *Plague* to be a *venenate disease* they do not conceive that all *poisons* are to be cured one way, and that by sweat, especially as soon as ever they are taken: much more if they be of a *Septic* nature: they do not believe sweating to be the remedy for *Arsenic*, or *Lapis infernalis*, should any take them. But if it were, yet sometimes there is such a *plethoric habit of body*, and the *veins* are so distended either *naturally* or through the *febrile agitation of humours*, that 'tis imprudent and dangerous to promote sweat, till *Phlebotomy* be premised: for thereby the febrile heat will be mitigated, obstructions removed, the blood *ventilated* and capable of a further rarefaction in order to sweat, and *transpiration* promoted, and Nature inclined to sweat; for bleeding doth not draw in the humours, or *poison*, but carries it out to the *circumference*, as experience doth testify, and consequently is rather *subservient* unto, than *opposite* to the *indication* that others go upon.

These are the most solid *objections* I have met with upon the subject: in which whatever is suggested is not so to be understood, as if the *Galenists* did not know that their *Adversaries* use or pretend to use *Cor-*

dial and Alexipharmacal Diaphoretick: as on the contrary none but this Baconical — G. T. would suppose, that when a Galenist speaks of Phlebotomy, that he intends to use nothing else. Those judicious persons do consider the variety of Pests, that some of them are by foreign contagion, and seise upon healthy bodies: in these they are willing that the venome be eliminated presently by sweat, except the Plethora habit make it necessary to bleed first, and then they sweat them afterwards immediately: taking all imaginable care for to preserve their strength: they also know that in such times as the Patients have been used to an ill diet, and debilitated through poverty and misery, that in such cases even Galen woud not allow bleeding: for how requisite soever it may be for the disease, such persons cannot bear it: They know that some Plagues are attended with little or no Feaver, yet attended with symptomes dangerous and mortal; in these cases they are for Cordial-Alexipharmacal Diaphoreticks, and promote sweat as earnestly as any Helmontian: in others the Plague is attended with a Synochus and putrid Feaver, in these they divide their cures, and regard both the Feaver and the pestilential venome, &c. according as the strength of the Patient will bear (they consider not only his present but future strength) they proceed to Phlebotomy: sometimes they observe the Plague to be so gentle, that the infected can go up and down and feels little or no indisposition in himself: in this case they only continue the motion of Nature by mild Alexipharmacal, that the Botch or Carbuncle do not strike in again, and perform the rest by a sollicitous Chirurgery. In fine, as there is nothing more rational than all their solicitude in cures: so they know that in so desperate a disease, there is no course to be left unattempted: the way by Alexipharmacal and Sudorifics come from them, and is properly theirs: but they urge no method generally in any disease almost; knowing that

that the same distemper may be cured several ways by men proceeding upon contrary indications, and yet the Art not violated: and in the Plague, as they know the great variety thereof in specie & individuals, so their directions leave us in a great latitude upon emergencies: They understand that saying of Celsus:

Dam quo celerius ejusmodi tempestates corripiunt, eo maturius auxilia, etiam cum quadam temeritate, rapienda sunt. As also that, Cum eadem omnibus convenire non possint, ferre quos ratio non restituit, temeritas adjuvat.

To conclude, if there be any thing that requires a *dexterous Physician*, 'tis this disease: And if any thing can make him such, 'tis the diligent reading and understanding of the Galenists; who have in this case transcended themselves, and replenished their discourses with so prudent cautions, such excellent observations, and experiments, that may raise admiration in all that are conversant therein, and satisfie the World, that those notional men, following the ancient Methods of Science, have out-done all that ever the ignorant rash Experimentators of this Age could imagine. I have a long time designed a Collection of all the choice Experimental Writers upon Epidemical diseases, whether pestilential, or not; together with the Histories of diseases that are otherwise of a facile cure, and are changed by the mixture of a pestilential venome: for as there is nothing more dangerous and intricate than such diseases, so there is nothing wherein the generality of Physicians are less acquainted: 'tis an effect of the novelty and curiosity after knick-knacks which infatuates this Generation, and will ruine the next: there is so much of pedantry in reading, 'tis so much more pleasant, and divertive to talk of, to make Observations about freezing, then to read over *Galen de typis*, that I do not wonder to find D. M. not to understand what the Type of a disease is: but I do wonder how he durst

Hippocrat.
Epidem. 1.6.
sec. 7. cum
notis Volfr.,
p. 7. 8,739.

C. Celsus me-
dicin. 1.3 c. 7.
de febr. pest.
Id, ibid c. 9.

say I was intollerably ignorant in the Rudiments of Physick, for speaking as Galen, and the best Physicians do: I may accommodate to these impudent Scholiaſtſ that ſaying of Hippocrates. They that are ſick, and do not know themſelves to be ſo, have an imbecility in their Intellectuals. Such men are poſt fled with a desire to prepare their own Medicaments, contrary to Law: and neglect the ſtudy of neceſſary and uſeful Books in their Profession, which is contrary to all Reaſon: 'Tis eaſie to foreſee that the next Age will ſcarce be furnished with a wiſe ſtaṭeman, Physician, or Civilian; and perhaps ſcarce yield an accomplished Divine, or an intelligent Sheriffe, or Justice of Peace. And this evil is become remedieſs, by reaſon that the contempt of University-learning, and negleſſ of ſtudying, hath ſo decayed the Trade of Bookſelling, that no man that is deſirous can furniſh up a Library; which I find too true, being not able to repair the loſs of a choice Collection of Phyſick-bookeſ, which were conſumed by the fire at London.

Deſcbr.p.135

Having thus explained the nature of the Pest, I return to the Argument of—G. T. which gave occaſion thereunto. That the Pest is neither a Feaver ~~nor ſlowe~~, nor indeed a Feaver at all, I have demonstrated: That there are ſome Peſts in which Phlebotomy may be uſed, I have alſo made evident: As alſo that it was not without Singular prudence that the excellent and learned Physician Doctor Willis did pronounce that Phlebotomy was ſeldome, and not without great caution, to be practiſed in the Pest: because the blood being too much exhausted, and the veſſels ſubſideing, the neceſſary inclination to tranſpire and ſweat, is not ſo eaſie to be promoted, or continued. I have likewiſe evinced that the Pest doth not conſist properly in a Poſſon, but in ſomewhat Analogous thereto: and conſequatly ſince ſimilitudes are not identiſied,

tis d. 'tis foolishly argued by —— G. T. that because upon the taking of Poysom Phlebotomy is useles: therefore it is so in the Pest. But neither is the antecedent true alwayes; as any man acquainted with the Medicinal History of Poysons doth know: for although upon the first taking, they are to be attempted with peculiar Antidotes, yet if afterwards they produce a Feaver in the Patient, or if there be danger of it, Phlebotomy is both used and allowed, by the Authority of *Paulus*, *Avicenna*, and *Haly-Abbas* and other eminent Physicians: particularly by *J. Cesar Claudinus* in his *Emperica rationalis* l. 6. sect. I. c. 1. It is also perspicuous out of what I have said, that 'tis false to say that *All Feavers, be they ill conditioned, or others, have any resemblance with, or are to be cured like the Pest*: much less is it true of most Maladies whatever. Whereas this *Impertinent* goes about to prove it thus: *Because there is quiddam deleterium in them, or a certain venosity.* If he take *Quiddam deleterium* and a certain *venosity* for one and the same thing: it is most false: shew me the effects thereof such as are visible in the Pest, and I may grant there is somewhat *Analogous*: but I cannot see any such thing, nor that they need any such cure: It is possible —— G. T. may with his Pepper-drops, or *Essence of Ginger*, and such like hot Medicaments drive out some Pustules in the Skin, in most Maladies (and even where were none) but I shall not conclude thence that either the indisposition was *venenate*, or that he did *impoison him*; though that be a facile thing to do where the same person acts the Doctor and Apothecary; and usually done heretofore as any School-boy may know out of *Tacitus*: or *Tully*; pro *Cluentio*, where two are mentioned, the one the City Physician, who was called *Medicus*; such were retained by *Salary*, the other is termed *Pharmacopola circumforanensis*, that is a Doctor who kept several Markets, making and vending his own

*Joseph. Minerv.
sua de sec. ve-
ne cubiti in
febr. putr. ma-
lig. p. 141,
242:*

*c. Tacit. Ag-
nat. l. 4. &
l. xii.
W. C. may
learn what
*Medicus cir-
cumforanensis*
is out of
*Menagius's
Antiquat.
jur. civil. c. 35,**

own Medicaments, which gave him the opportunity of gratifying *Oppianicus* his Mother in law: a courtesie the other had oftentimes done for him before: I believe there were no Apothecaries at that time in that place, but in 1220, or 1221. when *Physick* was first made an University-Faculty, and Doctors thereof created in imitation of those in *Theology*, then were the Profession of *Physick*, and that of the *Apothecary* made distinct, and that with so much caution, that it is a question amongst the *Imperial Lawyers*, Whether a Physician may have any manner of Contract with An Apothecary, though to drive on other Traf-
fick than that of *Pharmacy*? In the *Lombard-Chronicles* there are many cases of *Princes* (and no doubt than others) by *Physicians*: there was one *Sede-
chias* in the dayes of *Charles* surnamed the *Bald*, in *France*: and in the reign of Queen *Elizabeth* one Doctor *Lopez*, and *Giulio*. If some mens reading extends not to this knowledge, I would have taught *D. M.* and *W. C.* this and much more, had not the *Artifice* and *in-
terest* of some men debarred me from publishing it. If any man can shew me any Dispensatory made by any European Physicians (since there was so much as a Graduated Doctor) that was previous to the distinct Profession of *Apothecaries*, I will own then (though it be a certain untruth) that the practise (I do not say practising) of the *Apothecary* in the *Quartane*, was contrary to the rules of *Physick*, and the case well proposed by *D. M.* All men are at the mercy of such as write what they will, and defame as they please, and permit not others to vindicate themselves, nor undceive the World. 'Tis ungenerous to pinnion a mans hands, and then beat him. In reference to that *Con-
troverse*, I add that the *statutes* of the *Colledge* command the *Physicians* to send their *Bills* to an honest *Apothecary*: And our *Laws* make the *Colledge* Judges of all *Receipts*, as well as *Methods* of *Physick*: which

*Stat. Colleg.
Lindin. Miss.
in biblioth.
Oxon.*

AG

As it conforms with the general practise of Europe, so it is very prudent; for hereby provision is made not only against noxious Medicaments (and the big prizes of Arcana) but illegitimate Methods of practise, by which last it is as easie to destroy a man, as by poison, and more privately: How the designs of the Experimentators will conflict with our Laws, and be accommodated to them, I know not: I know a Physician may be tryed upon giving his own Medicaments if the Patient miscarry; how he shall defend himself, I know not: I have not seen any reason alledged, that is likely to convert the Magistrates throughout Europe to permit it: or to gain a repeal of the two last Edicts in Denmark against it: 'Tis an evil president to dispute against wise Laws: 'tis worse to act against them: and what consequences it will bring upon the Land, to see one Profession retrench upon another, let the Lawyers judge: The beginer of this Novelty, the Lord Bacon, stopped not at Natural Philosophy, but carried on his humour to attempt or project a change of our Laws. I do recommend it to the consideration of our Sages in the Law, that if Physick, Divinity and other Faculties be overthrown by a company of Wits, whether it be probable that they shall long continue free from the attempts of the Omnicient —

But I shall resume the examination of the remaining Arguments of my Adversary.

" Because I often observe many squaring their Therapeutic intentions according to the Definition of the Feaver, indeavouring to cool those that are in a scorching heat, by breathing a vein, let them know, that a Feaver, whose essential nature is to be inquired into for the use of man, is very erroneously defined an Accident: for a

Cannot an accident be the product of a fore-going cause? Besides, whoever defined a Feaver so as to make its General to be An Accident?

*febrile

febrile heat is certainly the product of a foregoing
Cause which is *primarily* to be searched after, then
whatsoever depends thereon will quickly va-
lisch.

Now this cutting an hole in *venal vessels* for the
removing a bare *Quality*, is all one as if one should
lave out of the *Pot* ready to boil over a *spiritous*, or
some precious Liquor therein contained, to the intent
it may thereby be quailed, neglecting to withdraw
the fire, the *impulsive occasion* of the violent motion
made therein. Do not they take the like absurd
course, who do think to *cool* the body in a *Feaver* by
throwing away whole Porringers of the *Nectar of*
life, never looking after the ablation of the *Causo-*
poietick cause and *focular matter* sited about the
Stomach, which makes an *estuation* and *efferve-*
scence in all the other parts. That way of *frigidati-*
on which pillageth the vitals, increasing the malady,
only obliquely abating a tedious *quality*, is never to
be approved by a *Legitimate Physician*. He that
will bring to a moderation the *finger excessively heat-*
ed from a *thorn impacted* therein, must extract the
same, otherwise he will take a wrong course by the use
of *meer frigefactives*. So he that will *positively re-*
frigerate in any *preternatural heat*, must eliminate that
spinous, aculeate, acid, acrid matter which goads the
Archew, incensing it that it becomes exorbitant, fret-
ting, raging, *Heantontimorumenos*, gauling it self at
the presence of that which it abominates, never to be
pacified till it be excluded, or some *extraordinary*
Sedative given (I mean not *Opium vulgarly prepa-*
red) which may *for a time asswage its fury* till it
have leisure to thrust out the unwelcome guest.

I could wish my *Adversary*, instead of consulting
the *Novum Organum* of the Lord *Bacon*, had been con-
versant in that more ancient one of *Aristotle*; he had

not

not then committed so many errors in point of *Ratiocination*, as he now does, which renders his discourse intricate, confused, and oftentimes impertinent, to the great distraction of his Reader, and vexation of his Antagonist. He perpetually mistakes through an *Ignorantio Elenchi*: he never apprehends what he opposeth. That the Galenists do define a Fever by a preternatural heat diffused through the whole body, is true: They are contented to call that a Fever, which the vulgar does so, and accordingly to define it: Not but they distinguish in Fevers the Material and Formal cause thereof; as also the several Efficients thereof: and in their Method of curing, except necessitate put them upon another procedure, they do always, and are obliged to do so by the Rules of their Art, to remove the Cause of the Fever: and this is notorious to all that understand the first Elements of Physick. They consider the evident, occasional procastinick Causes: they consider the Antecedent causes, which though they are not the immediate and conjunct Causes of the Fever, yet dispose unto it; and are of such importance as that they may often degenerate into immediate and conjunct Causes: and, which is more, in the Cure they do not only regard the Cause which gave birth unto, and produced the Disease, but that which doth foment and continue it, and that which may produce or increase it. *Censeri debet causa non quæ facit, aut fecit solum, sed & quæ facies nisi quis obster.* And although the curing of the Disease, or Fever, be the object of their designs: yet As all wise men consider by what means the ends they propose to themselves may be effected, so do they deliberate how they shall effect their designs: and that is by removing the Cause of the Malady: But as in other designs it frequently happens, so here they often meet with impediments, which must be removed, before they can prosecute their intentions by direct means. Upon this account they are forced upon ma-

operations which they profess, are not immediately conducted to the intent of however, which yet they pursue; because without doing so, the indisposition either could not be cured, or not with such safety as becomes prudent partisans. Few of them ever bleed than the want of meatly for refrigeration, and the extirpation of the farinal heat, without regard to the material cause of it, which is to be concocted and ejected by Nature. Though Phlebotomy be but one operation, yet it produceth sundry effects in the body, and in order to each of them is both indicated, and practised: For it evacuateth that redundancy of blood, which frequently occasioneth diseases, always is apt to degenerate into a vicious morbidick matter during the feaver, and by an indirect and exorbitant motion to afflict some or other principal parts to the great danger, if not destruction of the Patient: upon this account we do use Phlebotomy in Fevers sometimes to diminish the Plethora, and so to prevent the violence of the succeeding disease, and dangerous symptomes that may infuse; and then the veins are too much distended, to facilitate and secure the operation of subsequent Medicines that are used to evacuate the antecedent Cause; and to mature and expedite the continent morbidick cause: Besides, it promotes transpiration incredibly, gives a new motion to those humours which together with the blood oppress and indanger the internal and principal parts, it diverts them from the head, and draws them from the heart, lungs, stomach and bowels into the habit of the body, whereby Nature being alleviated prosecutes her recovery by maturation and expulsion of the peccant depraved matter, deducing to its proper state that which is semi-purid, and not irrecoverably vitiated, and separating first, then exterminating what is incorrigible: So the Patient recovers. Nor is there any thing more true than this, which every practitioner may daily observe in his practise, that Of all the

the Medicaments which are used by Physitians,
there is not any may compare for its efficacy and
utility with Phlebotomy: for expedit, so facile,
and so universal is it. The universality of its
use appears herein, that it evacuates the redundant,
it alters the exorbitant Fluxes of the pe-
cantic or deviating humours and blood: It relax-
eth the vessels and pores of the body; and refri-
gerates the habit thereof: And therefore is so ab-
solutely necessary in putrid Feavers, that though I do not
say they are incurable without it, yet I pity the languish-
ing condition of such as omit it, the violence of the symp-
tomes being increased thereby, and the cure procrasti-
nated, to the great trouble and hazard of the sick, and
his great detriment afterwards; for you shall ordinary-
ly meet with a slow convalescence, and the blood be so
depraved by so long and violent an effervescence, that
it becomes remediless, and degenerates into an evil ha-
bit of body, Scorbute, Dropse, &c.

This being premised, (which is more clearly pro-
ved by Experience than Reason) I answer to his Argu-
ment, that we do not go about only to refrigerate
the Patient, but to concoct and eject the morbidick
matter: that we take the most befitting course to ex-
terminate that spinous offensive cause: and as upon the
prick of a Thorn, if part stick in the wound, and be bu-
ried therein, we proceed to maturate and bring to a
paculency the vitiated blood and humours inherent in
the part affected, and with the suppurated bitter draw
out the fragment of the Thorn; so we do in Feavers,
(where the depraved humours are not so easily separa-
ted and extirpated, as in the prick of a Thorn) matur-
ate and eject the morbidick cause, and thereby at-
chieve the Cure: And I do profess my self to concurre
with the Antients in their Opinion, that there is a

¶ Id autem ita esse spēcē intelligēs, considerans, quae partibus, in quib⁹ sup. rationē molimur, contingunt. Ea enim alteratio finillime est concoctionis, quam in materia putridarum febrium expectamus, nisi omnino est eadem.

Vallis. Method. med. l. 4. c. 2.

*Galen. meth.
medend. l. 9.*

great Analogy betwixt the generation of the Hypostasis in the Urine after a Feaver, and the production of purulent matter in an Apostimation; and that Feavers are but a kind of Abscesses in the mass of blood: for the proof whereof I do remit my Reader to *Baloniūs de Hypostasi Urinarum*. Amongst the Ancients I find two wayes commonly practised to extinguish this Febrile Heat, by a course corresponding with the usual wayes of extinguishing a fire; which are *extingueāre*, by subtracting the jewel from it: thus they did Phlebotomise at once till the Patient did swoone: the other *extingueāre*, by quenching it: thus they gave them cold Water to drink largely, until the sick grew pale and fell into a shivering: this last was not practised till there were manifest signs of concoction: But 'tis observable that upon either of these Medicaments, they did expect that happy issue, that Nature thereupon should presently discharge it self by sundry evacuations of the morbidick matter: so that they did not thereby intend bare resignation, but the extirmination of the concocted febrile matter.

And thus much may suffice in answer to this Objection.

The last Objection he makes is this, as I shall form it.

" The great Indications of the Galenists for Phlebotomy, are either Evacuation of the redundant blood in a Plethora: or, the Revulsion and direct pulling back of what is in flux, or flowed into any part already.

" But neither of these Indications are valid, and oblige them to that practise:

Therefore:

" Therefore the practise of Phlebotomy is not to be continued.

As to Phlebotomy in a Pletorick body, he thus explodes that : " If by plenitude be meant an excess of pure blood, I absolutely deny there is any such indication for Phlebotomy : for during the goodness of this juyce there must needs be perfect sanity arising from integrity of all the actions of the body, so that it may justly be reputed madnes to go about to broach this Balsome of life, weakning Nature thereby, as long as there is health with abundance of strength. *Imprimis non aundum* (saith Van Helmont in cap. de febr. p. 8.) *ut nunquam vires peccare possint abundantia, ne quidam in Methusalem: ita nec bonis sanguis peccat minuitate, eo quod vires vitales & sanguis sint correlativa.* i. e. We are to take special notice that too much strength can never be offensive to any, yea, not to Methusalem; no more can any one have too much blood, for as much as vital strength and blood are correlatives. Well then it is plain, that whatsoever sickness seems to indicate Phlebotomy upon the account of an *dissipatio*, *sanguineous superpletion*, must needs come from an apostate juyce generated by vicious digestions, which being hostile to life irritates the *Archew* to frame the Idea of a disease, not as it is merely provoked by nimety or plurality, but from the pravity of the matter: wherefore the case is altered now, and the *indictio*, signification or demonstration of evacuating, doth in a strait line respect the Crnor, or Cacochymy, directing the Artisit to reform, mundifie, and rid those impurities contained in the seemingly corrupted marred juyce, by proper means sequestring the *vile* from the *precious*, not to let

I would willingly know how this *Archew* doth frame the Idea of a disease? and what this Idea of a Fever is? to return. G. R. his own words : Is it a Substance, or an accident? Material or Immaterial? That is specifiable, the disease, must be granted: But the notion is incomprehensible: and this Scurvy Idea is more ridiculous than the Scurvy Qualities.

out.

' out indistinctly what comes next at randome to the
 ' furtive castration of the Eutony, lustiness, liveliness,
 ' and strength of the Patient, which is to be preferred
 ' before all motives whatsoever.

The Analysis
& Synthesis of
Inanimate bo-
dies, doth not
teach the
Operators
convincingly
what may be
done in those
that are Ani-
mate.

' ' ' Tis certainly known to those who are through-
 ly versed in the *Analysis* and *Synthesis* of the parts of
 bodies, that *ebullition*, *estuation*, *effervescence* of fe-
 ' brile liquors arising from a *pleonasm* of degenerate
 ' *Sal.* and *Sul.* &c. as they would have it, may be ap-
 peased and allayed by *Remedies* assisting the vitals to
 make separation, and afterwards an exclusion every
 way of what is reprobate, reserving what is accepta-
 ble. This being performed, there is no fear that a
 plenitude simply of it self can do any harm, for here-
 by soexpedit a course is taken, that the *overplus* is in
 a short time sent packing away by *vomiting*, *stool*,
urine, *expectoration* and *sweat*: For this reason, con-
 sidering what strict abstinence the Patient is put up-
 on in a *Feaver*, 'tis very unlikely a *plenitude* should be
 of any duration. Is it not then greater prudence in a
 Physician to minorate what is superfluous by *safe*,
profitable wayes of *secretion*, and *excretion*, still ad-
 vancing the principal Agent, then for that end to give
 vent *indiscreetly* to what comes next without any
 election, incommodating, if not hazarding the loss of
 the vital principles. For believe it, whosoever hath
 any great quantity of blood taken from him, either rues
 it for the present, or hereafter: Let him that is hetero-
 dox prate what he will, alledging examples of those
 sturdy, lusty bodies, which have hereby received im-
 mediate succour; I can make good by practise (and
 challenge any one to come to that; otherwise let him
 forbear his Garrulity) whosoever is cured by a *lan-*
cet in this sort, is either prone to relapses, or to live
 more crazy in his younger or elder years, although
 for some short time he may not by reason of a robust
 ingrafted constitution be sensible of these inconveni-
 ences.

p. 124.

How much
blood doth he
account to be
a great Quan-
tity? I do not
know of any
Physician that
takes away
such great
Quantities, as
to create
these dangers.

Can you take
good by pra-
ctise, that
Phlebotomy is
the cause of
these subse-
quent evils.

As

As for Phlebotomy in order to Revulsion, he thus ex-^{p. 126.}
plodes it. "Another pretended way for sanguinifl-
"on is Revulsion, by which they say a violent flux
"of morbisick liquor into any noble parts, is intercept-
"ed: for this end they use the Lancet in a Pleurise,
"Peripneumony, or any inward inflammation: But how
"far they erre herein, is well known to the best Practi-
"tioners: for although I confess they do sometimes
"in the beginning suppress, and as it were crush the
"aforesaid diseases, yet is it done accidentally, very un-
"certainly, rather by way of distraction of the Nature
"for the loss of its substantial treasure, than from
"any true Revulsion or direct pulling back of what is
"in flux, or already flowed in. 'Tis true, where the
"vessels are depleted, a repletion is forthwith made ab
"fugam vacui, to avoid a vacuity, but the supply is from
"what comes next: for as intro as well as intro foras.
"However there is no streight immediate Revul-
"sion intended from the part affected to the Ori-
"fice.

It seems strange to me that any man should pretend
thus long to have diligently attended on the practise
of Physick, and yet never have seen, or have the impu-
dence to deny that there can be any such thing as a
surcharge of Blood, which is that which Physicians call
a Plethora or Plenitude. But the continuance of these
Baconical Philosophers will in time free us from any
admiration of this kind. In Greece, when the Athletes
or Wrasslers were publickly maintained, the observati-
on indeed was more facile than now, but every Coun-
try almost yields frequent cases of such an indisposi-
tion: particularly 'tis easily to be remarqued in strong,
healthy and plethorick Children, whose sudden death,
it often ariseth from no other cause, so it astonisheth the
vulgar, and usually raiseth in them suspicions of Witch-
craft. Hippocrates. and Galen having taken notice of

the

the evil consequences attending this habit of body, do advise the owner to attempt the change of it, though it be accompanied with the most perfect health and vigour imaginable.

*Ἐν μὲν γοναῖσιν αἱ ἡμέραι τελεῖσθαι
εἰδοῦσαι, λόγος οὐκάριστος εἴη τούτῳ, ὅτι
εἰπεῖν διαφένειν, εἰς τὸν διατριβὴν οὐκ
εἰπεῖν τὸν ξένον. τοτείν οὖν τὸν τυχόντα ξύπνην μόνον βεβαῖον.*

Hippocr. sect. L.
eph. 3.

And this habit of body, and fulness of blood, which he saith would do Methusalem no harm, is observed by those who had daily opportunity to see the sad experience of it, to abbreviate the life, and occasion many diseases, as Apoplexies, Cardiacal Syncopes, and Ruptures of veins in the Lungs, Squinancies, Pleurisies, &c. So that Hippocrates condemns that habit of body again in his book *De Alimento*: and Celsus concurs with him therein.

Ea corpora, qua more eorum [Athletarum] repleta sunt, celerrime & senescunt & agrotant. i. e.

Those bodies which are dieted and brought up to an Athlestick habit, do soonest of all decline into sickness and premature old age. I never read of any Physician, who in his directions for health recommended unto his Patient that course of life wherein the Athletes were bred up, thereby to acquire such a Plethoric habit: and whatever the present sanity were which they enjoyed as to strength of body, their intellectuals were very dull; and the most understanding persons would have thought it prudential in such a case to broach some of the Balsome of life, and weaken Nature thereby, rather than to live in a perpetual danger of such perilous diseases as that Envy subjecteth men unto: But our Helmontian doth think otherwise.

If such an habit of body be thus perillous during perfect health, how ought a Physician to apprehend it upon the first approaches of sickness? Doth not then Nature add to the redundancy of blood by a defective inspiration; whereas the veins are so full as not to be able to contain more? Is not the pulse weak, slow, and oppressed,

Cels. de se:
pub. l. 3.

Galen. in ex-
hortat. ad bo-
nas artes
discend.

C. Celsus Me-
dicin. l. 1. c. 1.

oppr^{essed}, and the Heart so debilitated as not to be able to discharge it self of the Blood which flows into it, and in danger to stagnate in the Lungs, or coagulate in the Ventricles? Can there seem any thing moreagreeable to common reason in this case, than to practise Phlebotomy, whereby Nature is at present alleviated, the surcharge of blood abated, and the imminent dangers prevented? Is it not prudential, were a little blood so precious a thing, and the loss thereof attended with some small irreparable debility? Is it not, I say, a part of prudence, to submit to lesser (though certain) inconveniences, then to run an almost inevitable hazard of the greatest imaginable? I read not that the famous Milo arrived to the years of Methusalem, nor yet to those of Hippocrates: though I am apt to think he was so solicitous for to preserve his strength in its vigour, as not to have been much Phlebotomized: At the A. m. var. Histor. l.9. c. 31. Olympic Games being Victor, and going to receive the Garland from the judges, he fell down dead suddenly, and was thence carried to his Grave. It is to be supposed, according to our Helmontian, that in that Euexy of body, something so virulent or odious put the Archaus into such a fury that it ran mad and destroyed him: whereas had it been sublimate or Arsenic, it would not have been half so exasperated, or hasty. 'Tis a most humoursome and sensless Kitchin boy, that no man knows how to please: Suppose that the Brain might be in him a little oppressed with a Vertigo, or some petty disorder, must this capricious Dumvirate immediately produce the Ide^s of no gentler a disease than an Apoplexy, or Epilepsy? But to pass from these phantastic causes, the allegation whereof least becomes an Experimental Philosopher, I shall instance in the effects of Bleeding in a Plethora.

Anton. Benivenius Medicinal. observat. c. 69.

" Men commonly attribute much to the *Pulse* in
 " the discovery of *diseases*: If that be *weak*, *low* and
 " *small*, they frequently presage *death* or *mortal dan-*
 " *gers*: if it be *full* and *strong*, they give *hopes* or *assu-*
 " *rance* of *recovery*. Yet we meet with one *Philip*, a
 " *drunken* and *corpulent* fellow, who lying sick in his
 " *bed*, I found his *Pulse* so weak, that it was scarce
 " *perceivable*, and I should have thought him near
 " *death*, had not the *high colour* of his *face*, the *fullness*
 " of his *veins*, and his *eyes* ready to *start out*, together
 " with the *setting* of his *teeth*, all proceeding from re-
 " *undance* of *blood*, hindered me from passing such a
 " *Prognostick*. Upon due examination of *circumstan-*
 " *ces*, I concluded the *whole distemper* to arise from a
 " *Plenitude* and that there was no such *effeual re-*
 " *medy* for him as *speedy Phlebotomy*: His friends were
 " much against it, apprehending that the *weakness* of his
 " condition was such, that it would rather *hasten his*
 " *death*, than *cure him*: but at last they did assent
 " thereunto, and I caused him to be let *blood*. And
 " immediately he recovered, the decay of his strength
 " and malady not being more *sudden*, then was his re-
 " *covery*.

This observation of *Bonivenius* is confirmed by the
like accidents and resembling cures, which had fallen
under the observation of *Dodoneus*, as he relates there
in his *Annotations*; particularly he sayes, " *Ad sui &*
" *ego olim homini ebrio so, qui cum ad tantam plenitudinem*
" *venisset, ut quodammodo strangulari videretur, etiam*
" *mutus factus fuit. Huic vero & sanguis largiter de-*
" *tractus e communi dextri brachii vena, mox loquela &*
" *sanitatem restituit.*

It were endless to transcribe cases of this nature: nor do I believe that there is any understanding Practitioner who will deny that 'tis possible for an excess of blood to become prejudicial to a man. I proceed against our Helmontian: He sayes, "that nimety or plurality doth not offend in such cases, but the pravity: and that the pravity is to be cured by proper means sequestring the vile from the precious, and afterwards excluding it by vomit, stool, urine, sweat, and expectoration." — I answer, that the calc here being put concerning persons that are Plethoraical, and that *Quoad vasa*, when the vessels are so full that Nature languisheth under the burthen, and is not able to dilcharge even the vital operations, by reason of its excess: though the Blood may have some mixture of depraved humours, and though they may have occasioned that ebullition or irregular motion of the blood, yet is not the disease ordinarily to be cured without Phlebotomy: I will not deny but that such cases may be alledged, as the Patients may have recovered out of those kinds of distempers, not only without Phlebotomy, but without any help at all.

I am willing to grant that the *Diatritarii*, or *Aegyptians* (who were prohibited by Law to administer any manner of Medicament till after three dayes were past) did recover under their hands: though I believe that in *Apoplexies* and *Squinancies* multitudes must have miscarried: Had not *Erasistratus* done great Cures, his fame had never equalled that of Hippocrates: So *Petron* was a man of renown, yet perhaps what *Celsus* avoweth of the last, may be fixed upon them all. *Plures, si protinus a principiis exceptit, intermit.* Thus much I am willing to grant, when judicious men are the Physicians, and instead of one Medicament do substitute another. But what *Asclepiades* or *Erasistratus* might do in their dayes (when fastings, bathings, oylings, and the like were the so much

Arist. polit. l.3. c.2.
Erasistratus c.4.
c. celſi. l.3. c.9.
Asclepiades was he that to cure tho. iuso, jucunde.

much the *vulgar practice* in *health*, that *Patients* willingly submitted thereunto in *sickness*) I cannot believe that an ignorant *Helmontian*, or other cheating *Chymist*, or illiterate *Experimentator* of this Age can do. *Physick* is a *PROFESSIDN* wherein we commonly see *Miracles*, the events of diseases being such, that *Nature* oftentimes transcends our *Art*, and *Imagination*: And sundry unexpeted *Medicaments* (undoubtedly rash) do effect *Cures* that the most rational and *Methodical* procedures have failed in. Notwithstanding all this, I do not see that we ought to presume upon monstrosities; or regulate our *practise* by such contingent *Cures*; And I scarce believe that any *discreet* person would either *put his life upon such an adventure*, or take it well from us should we either relinquish or persuade him *thereunto*. I say then, that in a *Plethoraick* body, suppose we that it is an *Ephemera*, or *Synochys imputris*, 'tis well done of the *Physician* to bleed the *Patient*, least those *Feavers* (which we confess, even without *Phlebotomy*, to be *safe*) least the *Diary feaver* should degenerate through some *secret indisposition* of the *Patient's body*, or some *error committed by him*, into an *Hectic* or *putrid Feaver*.

Forrest. obs. 1. t. ver. 3. in Scholio. Non est tamen negligenda hæc febris *Ephemera* quamvis velocis & bona terminationis sit, cum soleat propagines malas gignere, & in alias febres transmutari: & licet cito terminetur, non tamen inter morbos acutos reponenda: quia caret malis accidentibus. Si error contingat in curatione vel per medicum imperitum, vel agrotum periculum est ne in *Hecticam* transcat, si biliose fuerit temperaturæ, qui egrotat: In aliis vero in *putridum*. This is confirmed by many observations, and allowed of as true by *Physicians*: No less true is it that a *Synochus simplex* changes into a *putrid Feaver*, and *Squincancies*: as *Forrestius*, and *Experience* demonstrates. As for dis-
easees accompanie^d by, or occasioned from a particular constux.

conflux of blood (though some humours also be depraved) unto any part, as *Apoplexies*, *Squinancies*, &c. for any man to think that such distempers can be cured without *Phlebotomy*, is direct madness; for all other evacuations (by *emetocathartics*; which every body cannot endure, nor is the *Apoplectick* in a condition to swallow) or *stool*, *wine* or *sweat*, and *expectoration*, are either useless, or too tedious to depend upon in such indispositions. Neither is that to any purpose which this Baonical Impostor saith, that after such a strict abstinence as the Patient is put upon in a Feaver, it is very unlikely a plenitude should be of any duration. For if the Feaver be such as is accompanied with a particular defluxion upon any principal part, the effects of that abstinence will signifie nothing: for the party will dye (in all probability) before he can reap any benefit by such abstinence: no benefit accrues by abstinence, but after sometime: whereas the malady permits no delay. It is notorious that suppuration is not the effect of a few hours: and that pain doth attract (explain the notion how you will, the *Phænomenon* is manifest) so that 'tis not to be conceived how so acute a disease should admit of a lingring cure. The residue doth not need any answer: for to say that whosoever loseth any blood doth rue it first or last, is a matter as easily denied by an intelligent Physician, as it is avowed by one that it is not so: If a prudent man advise it, there is not any danger (abstracting from casualties) if the Patient and those about him do their duty. These last circumstances are such that Hippocrates placed them in the first of his *Aphorisms*. Δει μηρι τυντην τα δύναται τοι επινοειν, αλλα γι τοι επινοειν, γι τοι επινοειν, γι τα Εγκεφαλα. It is not impossible but that a Patient may be so debilitated with his malady, and the means used for his recovery, that he conti-

Si omnia membra vehe-
menter resoluta sunt (*in
apoplexia*) sanguinis de-
trahio vel occidit, vel li-
berat. Aliud curationis
genus vix unquam sanita-
tem restituit; sepe mor-
tem tantum differt. C. Cel-
so Medicin. l.3. c.27.

Itaque mittitur, non quia
multa subest copia, sed
quia ea quæ subest, tunc
est inutilis & noxia. Villas.
Method, med. l.2 c 3.

nue afterwards infirm : if he refuse thereupon to take that Analeptick Physick in order to a perfect convalescence, whatever ensues is neither the default of the Doctor, nor the evil consequence of Phlebotomy : The same I may say in case either the sick party be not tractable, or those about him malapert or negligent, or some extraordinary casualty do fall out. For where many concurrent causes are requisite to the producing of an effect, if it succeed not, we are not to blame what did operate, but what failed.

Potest autem
id, dum solum
est, non mo-
vere, quod
justum aliis
maxime mo-
vet. C. Celsus
l. 1. in pref.

As to Revulsion that which he saith is very weak : — G. T. avers that the best Practitioners take it for an Error : 'Tis no great vanity to pretend to know more than a Baconian Philosopher : I do say, that no experienced Physician ever denied the operation though since the tenet of the Circulation of the Blood the manner how such an effect doth succeed admits of some dispute, and is obscure. We the silly followers of Galen and the Ancients do think it an imbecillity of judgment, for any to desert an experimented practise, because he doth not comprehend in what manner it is effected. In eruptions of blood and Catarrbs every one sees the thing is done : and that the Fuga vacui is not the occasion of the subsequent blood flowing to the orifice of the vein, I believe those to whom he dedicated his Book will assure him. How perfect our Cures are continual tryals demonstrate : How little confidence there is to be placed in the Brags of — G. T. after his ten years practise, any man may determine by taking a due estimate of his Ignorance.

Having thus examined all his Arguments against Phlebotomy, I come now to give our Reasons for it : But before I proceed to them, it is necessary that I give my Reader some account of,

The quantity of Blood in Humane bodies.
 The several Qualities of the aforesaid
 Blood.
 The manner of its Generation.

As to the *Quantity of Blood* that is to be found in *Humane bodies*, *Gassendus* holds that the *utmost* thereof exceeds not five pounds: but he is justly reproved for that *error* (and for intermeddling with *Medicinal debates*) by *Riolanus*; who avows, that in *suffocating diseases* he had taken away much more than that within the space of twelve hours, without endangering the Patients life. To relinquish therefore these *impertinent Naturalists* (whose discourses in *Physick* have done more *burt* than *good*; being accommodated generally to some *prejudicate Hypothesis* they take up, or founded upon a *narrow experience*) let us see what *Artists* teach us, *Avicenna* and several of the *Arabians* do hold, that there are *ordinarily* in a man twenty five pounds of blood, and that a man may bleed at the nose *twenty pounds*, and not dye: but if the flux exceed that, after the loss of *twenty five pounds* he dies inevitably. *Alex. Meibius* doth allow of *twenty four pounds* to be the *usual quantity*: *Homo statura decentis ad libras xxiv. sanguinis in corpore habet.* *Riolanus* imagines there may be in such a person *fifteen or sixteen pound*, at most but *twenty* in a *French man*, though in a *German*, he sayes, *Plempius* supposed there might be *thirty*. In an *healthy sanguine person*, being in the prime of his years, *Marquardus Slegelius* doth so calculate the matter, that he concludes there cannot be above *twenty or eighteen pounds*; and that the generality of men contain but *fifteen*. Doctor *Lower* in his excellent *Treatise of the Heart*, doubts whether any man hath *twenty five pounds of blood* in his body: and sayes, that according to *Anatomists*, the *quantity* seldom exceeds *twenty four pounds*, or is less than *fifteen*.

Perhaps.

I.Riol.s.opus:
Anat.nova,i,i
rot.adv. Gaf.
send. p.174.

Alex. Meibria-
de febr. c. 19.
Io.Riolish En-
chirid. Ana-
tom. 1.2.e.27.

Riolan. de
circulat sang.
(in Anato-
graph.)c.15.
p.585.

M. Slegelius
de sangu.mo-
tu.c.13.p.104.

Dr. Lower de
Corde.c.3.
p.115,116.

Perhaps the consideration of such fluxes of blood as spontaneously happen may give some light unto the controversie, and contribute most to the decision of the grand one, concerning the prejudice that may arise from the loss of Blood by Phlebotomy. It is recorded by

Schœck. Obs.
med. I p. 172

Math. de Gradi, that he had under his cure a *læn*, slender and seemingly *Phlegmatic Nun*, which by the *Nose, Mouth* and *Urine* did void at least *eighteen pound of blood*; and yet there remained so much in her, that upon the application of *Cupping-glasses*, they were instantly filled with *Blood*: and he recovered her notwithstanding that loss of blood. *Brassavolus* relates how he had in cure one *Diana* a Lady of the House of *Este*, which bled so much at the *Nose*, that he saved and weighed *eighteen pounds*, besides what was lost in the clothes applied to her: so that the whole quantity might amount to twenty two pounds. He recovered her by the use of several Remedies, one whereof was *Phlebotomy*. *Marcellus Donatus* doth avow, that he weighed *eighteen pounds of blood* which issued from the *Nose* of a certain Cook of the Cardinal *Gonziga's*; who was recovered to as perfect health and as good an habit of body, as he ever enjoyed before. *Amatus Lusitanus* gives an account of one in a *Quartane*, which bled at the *Nose* within five dayes *twenty pounds*: and of another who bled in like manner, within the space of six dayes *forty pounds*: whom yet he cured by *Phlebotomy*. *Montanus* saith he cured one of the *Emeroids*, which bled every day for forty five dayes, *two pounds of blood*, and more. *Arculanus* doth tell of one Woman that avoided by the *Womb* in three dayes *twenty five pounds of blood*, and yet recovered. *Almericus Blondelus* cured in a very short space a Souldier who was wounded under the right Arm-pit unto the *Lungs*: after the man had lain without sense or motion many hours, on a sudden there issued an *incredible quantity of blood* out of his mouth. The like incre-

Art. Musa
Brassavolus
Comment. ad
Aphor. 23. l. 5.

Marcell. Dona-
tus de vario.
list c 23.

Amat. Lusi-
curat. 100.
cent. 2. & cur.
60. cent. 7.

Schœck. obs.
med. I p. 312

Schœck. Obs.
Medic I. 4.
p. 614.

Almer. Blondel-
lus de vene
sestione, c. 2.
p. 30.

dible

dible fluxes of blood, in men and women, he professeth to have observed many times. *Forrestus* relates how a Gentleman that was his Patient did bleed at the nose in three dayes time, about twelve pounds of blood: and was recovered as well as ever. And when *William Prince of Orange* was wounded in the throat by an *Affassine*, he bled at the *Jugulars* before the flux could be stopped (which was not done in several dayes) twelve pounds of blood: and was perfectly recovered to his strength again. He also tells of another Gentleman, that having drunk *Wine-must*, fell into such an *Hæmorrhagy* at the nose, that he bled without intermission six pounds; and was cured by *Rhlebotomy*, and other befitting Medicaments. *Maffarius* did see a young Lady of twelve year old, which avoided at the nose about twelve pounds of blood: but fell afterwards into a *Cachexy*. To conclude, in the words of *Jo. Riolanus*: *Imo decem vel duodecim libras per narcs, vel hæmorroidas, per uterum in mulieribus effundi intra octo horas sine vita detimento quotidie obser- vamus.*

*Forrest. Obs.
Medic. I 1.
Obs. 14. cum
Scholio.*

*Id. ibid. Obs.
12.*

*Ales. Maffari.
ad febr.
c. 29.*

*I. Riolan. inter-
opusca nova
Anat. adv.
Goffendam.
p. 108.*

As to the Quality of the Blood, it is observable, that there is a great variety in the colour and consistence thereof, even in men of perfect health: many upon *Rhlebotomy* convince us that their blood is seemingly bad, whereas they are not molested with any distemper at all, but enjoy as entire a sanity, and are as free from diseases as those whose blood is to appearance better. I have elsewhere given an account of several *Phenomena* to be remarked upon the burning of Blood: which Observations are the more considerable, in that *J. J. Leckerus* hath published a great mistake about it: viz. *Siccum sanguinem in igne ut lardum frig- grare, & absimi, non minori celeritate quam ipsum olimum & vini spiritus; & in hoc quidem balsamino spiritu & igne, totius sanguinis vis & bonitas consitit, quoque*

*I. J. Leckerus
Physic. sub-
terrani. I. 1.
sect 5. c. 1.
p. 30.*

corrupto aut alterato, totius ejus crasis alteratur. But I say that it is not requisite the blood of every healthy person should burn so: and 'tis evident by those Experiments of mine, that there is a very great diversity betwixt the blood of several persons, as to inflammability; and I know a most fair *Lady*, whose blood will not burn at all, only crackles, that enjoys a constant health beyond most of the sex, excepting a pain at her stomach: and I have observed that to be an usual consequent to such blood. I shall not illustrate this matter at present by demonstrating the great discrepancies of the blood in several healthy persons, by mixing it with sundry liquors, wherein the diversity of *Phænomena* doth manifest the great variety thereof. It is observed by many Practitioners, that in healthy persons such blood doth often appear upon Phlebotomy, as to the Eye seems bad.

*almericus
Blondelius
de venæ se-
tioine. c. L.
p. 3.*

• I have seen many (saith Blondelius) who being casually hurt in the Eye by a tennis-ball, or by some other accident wounded and bruised, have been let blood; and the blood which issued out seemed corrupt: yet have not these persons had any thing of a Fever on them, nor been some of them sick of twenty years before. And

*Ballonius Epis-
dem l. I. p. 101.
101.*

Ballonius observed in several Ladies that out of hundred rather than any indisposition were let blood in May, and six or seven poringers taken from them, that their blood was very putrid. And he avows that in the most fair Ladies there generally is found such blood as looks impure and evil: yet that such persons enjoy a greater, or at least as perfect an health, and live as long as any that have a better-coloured blood. It is granted by Slegelius, that oftentimes upon Phlebotomy the blood which issueth forth may seem impure, and yet the Patients

*M. Siegel. de tient be healthy. Nonnunquam satis insignis impuri-
sanguinis
motu. c. 9.
p. 75.*

sanguinis motu, inest sanguini, ex cava educito, nullis gravioribus symptomatis homini molestis, ex quo patet non tantum semper periculum imminere, si nonnullæ frides sanguini admisceantur. I shall repeat here again the strange blood

blood which Simon Pauli observed in an healthy person.

" In the year 1654. a Citizen of Copenhagen, aged almost sixty years, being accustomed to be let blood every year in May, for prevention of the diseases incident in Summer, would needs be Phlebotomized in the presence of Me, and his Wife and Children: the Chirurgeon having prick'd the Mediane vein, the blood as it issued out had a peculiar but most noysome smell, transcending any rotten Egg, or stinking Ulcer, &c. which was so offensive to all in the room, that we were forced to remedy it by burning some perfumes. As soon as the Blood was cold in the porrenger, the stench ceased, and the blood seemed to be of a very good consistence, and of so radiant a Scarlet, that it equalled or rather exceeded the best red that is to be seen in the most beautiful Flowers: it contained but little serum. This passage of his recalls to my mind the serum of the blood of a Maid, of a sanguine colour, and perfect health, excepting a pain in her stomach: the blood which I caused to be taken from her seemed landable, and burned very vividly; but the serum being set to coagulate, seemed in consistence like to tallow, and smelt like thereunto. In another Child that died of an *Hydrops thoracis*, I observed the serum (as it heated) to sent extreamly ill, and with a penetrancy, as if it had been *Vitriol* burning: it would not coagulate though I boyled it; but afterwards when it had stood to be cold, it did jelly. I know a Gentlewoman of extraordinary beauty, troubled with nothing but *Morpew* or *Vitiligo alba* on her Armes in some places: being let blood, it appeared to be all serum almost, and very little of any crimson mass was in it, and that not so tenacious or fibrous as is usual; though it were as well coloured as any is: I boyl'd away all the serum (which made up about six ounces, or more) and it would never inspissate or coagulate. The variety of Blood is further illustrated by the case of *Henry van Bueren* a Brewers man, who in perfect

Simon Pauli
de febr. ma-
lign. foet. 11.

Regnerus de
Graef de ge-
nitol. p 84, 85.

health had his *Blood* such, that though it came out of the *vein* with a *ruddy colour*, yet as it *cooled* all the *serum* did turn *laetous*, and resembled *Milk*: though the *sanguineous Mass* retained its due colour: and this was constant to him whether he bled by *Phlebotomy* or any other way. A case like unto this is related by *Bartholin* from *Job. Bapt. Caballaria*.

Th. Bartholin.
*Spicileg. de
var. Lym., c.
c. 6.*

Concerning the variety of blood in *healthy persons*, it is further observable: that not only in some small wounds admit of no cure, or a difficult one: whilst others heal with more facility; in the same persons, when they are young, wounds will be easily cured even by the first intention, and conjoining of the lips thereof: And afterwards as they grow more in years, every superficial wound gives them much trouble; but when they become old every scratch degenerates into a foul Ulcer:

*Van der Lin.
den Disp. Phy.
fol. 39. §. 22.*

notwithstanding that the Patient all this while commits not any error in his diet, nor is sensible otherwise or any alteration in his body, or blood. In fine, diligent observation will assure any man, that not only the Quantity of blood doth vary in sundry persons, but even the Quality, according to the age, temperament, and diet of the parties; nay even according unto the seasonableness and season of the years. Nor shall I exclude the passionately angry, or melancholick, or phlegmatick from a latitude, yet doth their blood exceedingly vary in the porrenger, and consequently in the veins.

*Van der Lin.
den Disp. Phy.
fol. 41. §. 22.*

I have oftentimes seen (and so hath *Van der Linden*) that in some healthy persons the blood hath been of a redness equally florid from the top to the bottome: in some there hath appeared only some blackish spots at the bottome, which no conversion to the open Air would rectifie into a florid crimson: and perhaps some Observations may inform a man that the florid colour in the surface of the blood ariseth from a thinner sort of blood, of a peculiar kind, which radiates through a subtle pellicle on the top, and when the blood is

is turned topsie-turvy, 'tis not the impressions of the Air that restores the decayed colour in the more black blood, but the efflux of this *Ichorous* blood through the more black and fibrous mass. I have some grounds for this suggestion; but I never could see any pellicle or thin concretion upon the turned blood, and to the defect thereof I have been willing to attribute the Phenomenon, when the turned blood hath not equalled in floridness the first superficies. Some have attributed that florid colour to the concretion and shooting of some volatile Salts in the surface of the Blood: and think that Kircher mistook those saline striæ for liga. Worms in his Microscope.

Simon Paulli
de febr. ma-
lita.

Besides this difference in the Mass of Blood as to several Individuals, it may not be amiss to consider the difference that is betwixt the Blood in sundry vessels and parts of the body. It is the most common tenet amongst Anatomists, that the Blood of the Arteries differs very much from that of the Veins, Though Harvey seems to deny it with much confidence, and appeals to Experience for the proof of his Opinion: yet the Generality, as Doctor Ent, Walaeus, and Lower, grant there is a great difference in the colour of them, and that the Arterious blood is the most florid, the venous is of a darker red: Besides this difference in colour, there is a greater which ariseth from the quantity of serum which abounds in the Arterious blood more than in the venous. "Comprobavimus in accepto per nos ex crebris arteriotomias cruxrum duplem ferme compartam iehoris portionem: qua sit fortassis ut crediderit Auctor lib dentil. respire. Sanguinem Arteriale non concrese velut venalem; quanquam & nos cum concrescere non semel observavimus. So Aurelius Severinus: with whom Bartholin agrees. And Doctor Ent sayes it is more dilated than the venous. Besides this, there is a discrepancy in the venous blood it self: for in the Lungs

Harvey Exer-
cit. Anat. 2. ad
Riolan.

Aurel. Severi.
nus Epidoch.
de aq. peric.
sect. 8.

Barthol Spic. 1.
de vasis Lym-
phat. c. 7.
Ex de circul.
sang. p. 106.
& 267.

Lungs the Blood acquires by the mixture of the Air a tenuity of parts and florid colour exceeding any other venous Blood : this Columbus first observed , and gave this reason for the colour and great change which is made in the Blood by passing the Lungs ; proceeding to an imagination that the vital spirits in the Arterious blood might be the result of this intermixture of Air

Willis in Exercitat. de sanguin. accensione, Lower de cordc. c. 2.

with the Blood in the Lights : Most of whose opinion is taken up by Doctor *Willis* of late, and Doctor *Lower*. Besides this there is a discrepancy betwixt the Blood of

Vena porta commonly and that of the *Vena Cava* : which is not barely supposed by *Riolanus* ; but yielded

Bartholin. Spic. celeg. de vas. Lympat. c. 7.

Sanguinem in cava prope eor puriorem esse illa qui in vena portæ continetur , omnibus in confessu est quæ circulum norunt. Upon this account it is, that by the Emerods there is often discharged a black fæculent blood, to the great benefit of the Patient : but whensoever it is florid, the effusion thereof brings a great debility (sometimes very lasting) unto many persons. May I be allowed here to take notice of the

Observation of spigelius concerning the Saluatella : that the Blood which issues thereat is more florid and Arterious than any can be drawn from the greater veins : this he attributes to the frequent *Anastomoses*

Spigel. de fab. corp. hum. l. 5. c. 7.

Vesling ep. 30. & Van der Linden Select. n. ed. c. 13. scđ. 423.

that are betwixt the *Arteries* and *Veins* in the remote parts of the body : wherein he was defended by *Veslingius*, and *Van der Linden*. Doctor *Harvey* observed

in the most healthy and robust persons a certain mucinous humour to jelly upon the surface of their Blood, which he esteemed to be the most spirituous part thereof, others take it to be not an excrementitious Phlegm, but indigested Chyle : concerning this *Mebius* doth profess, he never observed any of it in the blood drawn, or issuing from the veins in the head : but frequently in that let out of the arms, and most of all in that which hath been taken by Phlebotomy in the feet. It hath been observed, that the Blood which hath issued from

Mebius fun. dam med. d. 12 p. 158, 159.

the

the head at the nose hath been of a laudable colour and consistence, when that which hath been let out at the same time by Phlebotomy hath seemed impure: And the like difference hath been taken notice of betwixt the Menstruous evacuations of Women, and the blood taken from their armes.

This variety in the blood of several persons often-times is a cause of that discrepancy which is to be in the blood of Men that are sick, in so much that when sundry men are afflicted with the same Malady, yet may it happen so, that there be little or no resemblance found in their blood. Oftentimes it is observed that in putrid feavers the blood that is let out by Phlebotomy is seemingly good. *Sape ad speciem & visum purus est, qui aliqui τῷ οἷῳ οὐδε μαλος εἰσι.* Ut contra impurus cernitur ἡ σπειρα, qui non ita τῷ οἷῳ οὐδε μαλος. The blood often seems to be good, when it is essentially corrupted and noxious: and it seems often to be bad, when as yet it is incorrupt, and alimental. In malignant and pestilential Feavers the blood is sometimes good to see to, whilst yet the sick languish under most violent symptomes, and commonly such blood is of an evil prognostick. *Pessimum signum est, & timoris plenum, cum sanguis vena scissa extrahitur, si purus, rubicundus, & inculpatus educatur, venenositatem superare indicum est, aut putredinem in penitioribus cordis latitare.* In me ipso olim observalim; nam ter per hanc febrem misso per venam sanguine, nulla prorsus putredinis nota apparabat, aliis signis immanni ferocitate sevientibus. In like manner doth Simon Pauli observe such outward goodness of blood to be a sign of malignity in a Feaver, and to be of an ill presage: which he illustrates with the case of an ancient man, fifty six years old, who being sick of a Feaver (which the Doctor concludes to have been pestilential) was let blood: that which issued out was so florid, that it transcended what any pencil could paint, or pen describe now out of any Artery, or the

Billonis Epidem.
dem. l. 1. p. 68.

Billon. Epid.
l. 2. p. 192.

*Petri a Castro
de febre, pun-
cticulari.*

*Simon Pauli
de febr. ma-
lign. §. 11.
14.*

Lung.

Lungs ever surpassed it: after it had stood twenty four hours, the *mæst* was all coagulated, and no serum to be seen: the Patient died suddenly and without any pangs of death a little after. With this doth that Observation somewhat correspond *Coyttarus* doth make (though he take it for no ill presage) that in *Epidemical pestilential Feavers*, at the beginning if they be phlebotomised, the blood of the Patient will seem very good and sound, but in the progress it will come out putrilaginous. *Circa morborum Epidemialium principia* — *sanguis si educatur, ruber & sano similis apparet* — *quoties iterum & tertio mittitur, corruptior, quam prius elicetur* — This he illustrates with *Instances*, and makes this *Hypothesis* (most judiciously) the foundation of his *Method* to cure such Feavers by letting the sick blood in the progress not beginning of the Disease: And undoubtedly if then the blood do not seem corrupted but florid, it must be from some venenate or heterogeneous mixture which advanceth the Native red, as *Spirit of Vitriol* doth that of *Conserved Roses*.

— It hath been observed, that the blood in the progress of Feavers hath seemed from time to time upon Phlebotomy to grow worse and worse, even on the day before a natural Crisis. *Quoties enim contigit videre in continentibus seu Synochis, & continuis, sanguinem multoties & die ante Crisi emissum priore missa deteriore, & tamen perfectam factam, & ad salutem ægrotantis iudicationem, ac sine recidiva?*

Baloniū observes that many people in the most fatal sicknesses have bled pure and to appearance good blood, whose Bowels and Lungs have been found (upon dissection) vitiated and rotten: Others have had their blood extreamly depraved, in whose vitals no default could be found. “ *Plurimis impurissimus sanguis detraesus est, imo nunquam fere purus, quibus tamen mortuis & siclis partes omnes satis integræ sunt deprehensæ.* ”

Coyttarus de febr. pu pur.
p. 247.

Almar. Blom de venæ sectione. p. 8.

Blom. Epid. l.2. p. 191.

deprehensa. Aliis fere semper puris; quibus tamen
 viscera & pulmones maxime putres sunt inventi. In
 a Pleuritic that dyed I observed once (besides that
 his Lungs grew naturally to his sides) that all the left
 lobe of his Lungs were corrupted and all reduced to a
 most fatal purulence, that the which he avoided in
 great quantities at his mouth, and upon Phlebotomy was
 very well coloured and seemingly landable. My Author
 goes on: " Scitu valde dignum est, qui fiat ut multis
 quibus putrefacta paene viscera sunt reperta, landabilis
 sanguis detracitus fuerit, item & viris, & mulieribus
 multis voxalēs, pallidis ac fere virentibus, cum alioquin
 judicasses sanguinem non assimilem colori (cum quale
 alimentum, id est succus in venis, talis color efflorescat)
 tamen florentissimus sanguis detracitus fuerit non
 serosus nimium, non subviridis & virore pallidus,
 — Multos videmus scabie infectos, aut simili vi- p. 101.
 tio, quibus certo affirmamus nos impurum sectione venae
 sanguinem detracuros, & tamen in ista defecatione
 cutis illibatus incorruptusque sanguis est, & opinionem
 spemque fallit eventus. Nos Elephantitis sepe linda-
 bilem sanguinem detraximus. Quanquam fieri potest,
 ut specie laudabilis sanguis appareat, cum intestinum
 aliquod vitium in eo delitescat, quod quidam in habitu
 corporis, & præsertim in partibus delicioribus, ut in
 facie cum ultimo elaboratur, & in rorem convertitur,
 tum demum se profert & exhibet. Præterea sequitur
 splenicus est, aut Empyicus, manente in venis sanguine
 puro, non desinit esse pallidus, emaciatus, subviridis,
 aut nigricans, quia non in massa sanguinis vitium &
 causa labis est, sed in alia parte.

In like manner *Blondelius* observed that after a Dy-
 sentery of two moneths standing, accompanied with a
 Singultus, and continued Fever, the Marques De
 Cœvres did upon Phlebotomy avoid at the Arm very lan-
 dable blood, whilst that of his stools seemed to be ex-

Almaric. Blon- treamly corrupted. *Hic superaddo sanguinem detra-*
dels de venu- *sum omnivodas puritatis notas retinuisse, a sero bene*
p. 68, 69. *repurgatum.*

Dr. Will's
febr. c. 1.

Doctor *Will's* after he hath made excellent use of those two old Galenical Comparisons betwixt the Blood, Wine and Milk; adds this accurate and true relation concerning the morbid discrepancy of Blood: "Thus the Blood, like Milk, in its perfection, as it cools separates into the several substances of a florid red on the surface, a thicker filamentous subdience, and a serous liquor: But if it be much depraved, when it separates in the Porringer it discovers it self in a different aspect, and each part assumes another shape: for that cream which coagulates on the top, sometimes is white, sometimes green, sometimes of a Citrine and livid colour: and is not tender, but viscid and tenacious, so that it becomes as tough as any Membrane, & is not without difficulty pulled in pieces. When the Blood hath been for some time seised with a Feaver, upon Phlebotomy there appeareth instead of the beautiful crimson on the surface a certain white or other-coloured Pellicle oftentimes: the reason whereof is that the blood being as it were terrified by its effervescence, the upper part thereof commuteth its redness and tenderness into a white and more tenacious substance: And if the Mass of blood be not well cleared of its saline and sulphureous recrement, that superficiary Skin is stained with a Citrine or livid tincture: and for the same reason the supernatant Serum acquireth the same Colours: Moreover the purple crassament of the Blood undergoeth several variations:

some-

sometimes it is (a) blackish, when the
 Blood hath been too much terrified with a
 long effervescence. Sometimes the fibres
 thereof are quite vitiated, so that it will
 not (b) coagulate, but remains fluid,
 like thick Milk; which is a bad sign, and
 occurs often in putrid Feavers, and Ca-
 chexies. The Serum is sometimes defi-
 cient, as in Hæmicks, and after too much
 sweat. Sometimes it superabounds, as
 in Hydropicks; and being set upon the fire
 will not entirely coagulate into a White
 mass: In some cachectical persons the
 blood is so watry, that it resembles that
 sanguous blood which stains the water in
 which flesh is washed. I knew a man of an evil habit of
 body, whose blood (upon Phlebotomy) used to seem
 white and like to Milk; which, after a course of Steel
 would be again indifferently red.

I shall add hereunto, that I have frequently seen the Blood in Hætical persons, and such as have had a latent Feaver to be very serous, and that of a livid, and citrine colour: and in Hydropics that have bled at the nose there was not any serum in the blood at all. In the Febris alba virginea (which I here contradistinguish from the Chlorosis) I extracted four hours after dinner out of the Saphena of such blood, as that the Crassament was laudable for colour and consistence, but the serum was so white, as not to be distinguished from milk: the lachrymous serum did coagulate, but retained no smell, whereas it usually resembles a roasted egg: it was saltish to taste: At the same time I blooded two more in the foot, neither of which had any such lachrymous serum, but a citrine serum: Hers, which was a young Lady, and in health, burned very well, and crackled: the other being aged sixty years, was excellently and

P 2 equally

(a) It was black, in case low and consistence like to liquid Pitch, in the Woman whose menstrus flopp'd eight moneths, and was cured by Galen with reiterated and large Phlebotomies. Galen. Epidem. 3. 29. cum notis Van der Linden. select. med. &c. 14.

(b) Aliquando putrescentia non tam se insinuat colore, quam substantiae modo, ut quam erit ruber sed non concrevens. Voles. de vixi in acut. p. 45.

Both the white serum and blood burned vi-
vidly with-
out any crackling.

equally coloured from top to the bottom; and the serum inclining to citrine: but would not burn at all, only crackled much, and puffed with wind. She had no indisposition on her, only was troubled with a flushing in her face, swelling of the nose, and an inward heat, such as is commonly attributed to an hot liver. I do not attribute that lackeſſene in the firſt Ladies blood to the mixture of new Chyle, which Doctor Lower ſaith he hath obſerved in Men, and other Animals, being phlebotomized a while after meat, to create a lackeons ſerum: for I never in all my life was ſo happy as to ſee that, though I have bled my ſelf on purpoſe two hours after dinner to make the tryal: and have an hundred times examined the blood of others who have been bled at ſuch times as we might expect to ſee that Phænomenon of his. Yet hath the reality of his obſervation been confirmed unto me by other credible witneſſes: ſo that I question not but he may have ſeen it; though I could not in these Ladies, who all dined together about one of the clock, and had done bleeding by four.

Neither may I paſs by this Obſervation, that of all the ſerum which I have tasted, I never found any to be bitter, though I extracted ſome once that ſeemed ſo bilious, that being put into an Urinal none could know it from urine highly tinged: as ſoon as I ſet it on the fire it coagulated with a leſſ beat than I imagine it to have had in the veins, and it exchanged its hue for the uſual white, ſmelling like a roaſted Egg. Yet doth Van der Linden ſay, that ſome have tasted the blood of Iberical perſons, and found it bitter.

*Adu nihil naturaliter
in sanguine amarum eſt: Sed nec eſſe potest; reddi-
ret enim sanguinem ineptum ſuo muneri; cen obſervare
eſt in Ibericis. In hiſ enim ſanguinem amaricare ac-
cepimus ab iis, qui & iſum vena emiſſum, & urinam
Andr. Vesalius ejus guſtarunt, Asclepiadio more. And Vesalius gives
de rad. Chinas us an account of one Prosper Martellus, a Florentine
Gentleman,*

Dr. Lower de
corde, c. 4.
p. 21.

Van der Lin-
den disp. Phy-
siolog. 51.
feſt. 19.

Andr. Vesalius
de rad. Chinas
p. 252.

Gentleman, much inclined to and troubled with the Jaundise, whose Liver was scirrhouſe (but ſpleen ſound) and his Stomach turgid with choler; and whereſoever he opened any of his veins they were full of thick choler, and the fluid liquor which was in the Arteries did tinge his hands as if it were choler. I find the like Observation in *Tb. Kerckringius*: that an

Th. Kerckrie.
gim Obs.
Anatomic. 57.

Iſerical Woman brought forth a dead Child in the eighth moneth, which was ſo yellow all over, that it rather ſeemed a Statue of ſuch wax, than an humane Abortion: being diſected By him, instead of blood in the veins there was nothing but choler, and all the bones were tinged with ſuch a yellow, that one would have thought them painted.

The Scholiaſt upon *Ballonius* obſerved, that however the blood is naturally ſweet, even ſuch as upon obſtructions from the *Menſtrua* hath regurgitated and diſcharged it ſelf at the Gums of women: (as they have told me) yet in one that was troubled with the Green ſickneſſe the blood, though florid, was ſalt.

Potest eſſe floridus color, & in ſe eſſe acrior & bilioſior: unde quædam mulier *ſexxapta, & ejusmodi prædita temperamento mibi affirmavit, ſiquardo vel ex dentibus ſanguis affluit, vel e capite, eum ſibi gustum ſentiri ſalfum & moleſtum.*

Billon. Epi-
dem. l. p. 112.
ſect. 17.

When I was at Barbadoes we carried off ſeveral poor English thence to Jamaica, where many of them falling ſick, and ſome being well, were let blood: I obſerved that in thoſe poor people, which live upon nothing almoſt but Roots, and drink *Mobby* (a liquor made of Potatoes boyld and ſteepd in water, and ſo fermented) that their blood did stream out yellow, and in the Porringer did scarce retain any ſhew of red in the coagulated maſſe: yet are they well and ſtrong, but look pale and freckled: ſuch persons (which are frequent in Barbadoes) are called *Mobby-faces*.

It were infinite, at least beyond my present leisure, to relate all that variety of *morbid blood*, which hath been observed in sundry diseases, and in several persons languishing under the same distemper: as in *Pleurisies*, the *scurvy*, *French-pox*, *Hypochondriacal Melancholy*, and the like: wherein if it be true, as it is, that often-times diseases vary in *individuals*, 'tis no less certain that the *blood* doth also vary in them: so that often-times ignorant *Physicians* do imagine a greater corruption in the *blood*, and a greater recess from what is natural to the person, and a greater danger in the disease, or in the practise of *Phlebotomy*, than they need; yet in *Epidemical*, or some *Sporadic diseases*, if the *Phænomena* be as general as the disease, 'tis certain then that the resemblance of the *blood* argues a resembling cause, which prevails over the *idiosyncrasy* of particulars.

I know it will be expected that I should say something about the *Controversie* whether the *Blood* be one *Homogeneous liquor*, the *recrements* whereof make up the four *Galenical Humours*, which are no otherwise parts thereof, than the *Lees* and *Mother* of *Wine* are constitutive parts thereof? Or whether the four *Galenical Humours*, viz. that which is properly *Blood*, *Melancholy*, *Choler* and *Pblegm* are the constitutive parts of the *Blood*, in its natural consistence and *Crasis*? I shall say therefore about this point as much as may be requisite to my present purpose.

First I observe that the *Galenists* are at a difference whether the *Mass* of *blood* contain those *Humours* actually, or only potentially? so that one may hold according to them, that the *blood* is as *homogeneous* a liquor, as any *Neoteric* doth hold it to be, though it arise by the mixture of their five principles. Amongst others *Erasistratus* hath a *disputation*, in which he amply asserts,

asserts, that all those *Humours* when they are *actually in* the blood they become *excrements*, and are no longer parts thereof, but such as the *ejection* thereof depurates and perfects the other remaining blood, which he confesseth to consist of several parts constituting one body, to which they are as essential as the *serous*, *caseous* and *butyrous* part are to *Milk*, which if they be deficient 'tis no longer *Milk*. *Nam ut non potest lac* Bogus disput.
bubulum intelligi sanum & perfidum sine tribus suis 19. §. 62.54.

partibus, sero, caseo & butyro, ita non potest sanguis probus animo concipi & definiri absque partium illa varietate. *Fernelius* doth compare the generation of *Blood* to that of *Wine*, wherein the *Chyle* is supposed to resemble *Must*, which by *fermentation* separates and throws out such parts as are not *actually* in that *liquor*, but arise upon *fermentation* and are ejected several wayes: the more *crude* parts are by *time* digested, and then the *noble wine* brought to perfection: so he supposeth it to be in the *blood*: and thus though *all the humours* be at once as it were produced in the *Chyle*, yet are they no more parts of the *blood*, than the *Tartar* and *Mothers* are parts of *Wine*. Both these *Similitudes* of *Milk* and *Wine* to *Blood* were first I think introduced by *Galen*, I am sure he made mention of them, and so did his Successours; to *Mercatus*, *Fernelius*, *Platerus*, *Palleriaeas*: then *Carolus Piso* began to carry the comparison further in his discourse of *Feavers*: and after him *Quercetan*: and since that our learned and judicious Countrey-man Doctor *Willis*. Colen. l.2. de elem.
Galem. 4. de usu part. c.4. & de nat. fac.
l. 3. c. 13. Vollerisia loc. commun. l. 1. c. xi. Mercat. Qu. 65.
Others held that the *blood* as it flows in the *veins*, and is designed by Nature for the *Aliment* and other uses in man, is not to be understood as *one liquor* consisting of some variety of parts, yet united into *one similar body* (*the rest whereof were to be excrements*) but a more *confused Mass* of several distinct *Alimentary Humours*, which Nature never intends to unite into *one similar body*, but to continue in a certain *more loose mixture*, each

each thereof retaining its proper congruity for the continuance of life and health. They do confess that there is a pure crimson part, sweet and balsomical, which they call *in rigour Blood*: but they say Nature never intended this for the sole vitalliquor; because she never produceth it alone; or if it be ever seen so, 'tis in a morbid condition; as in malignant Feavers, where the *qua exponit*, or Blood free from the proportionate mixture of other Humours, is reckoned amongst evil signs, *Qualis sanguis in malignis adarentibusque febris ibus follet excerni, aut e vena tumsa educi.* And therefore as none of the Humours are ever seen alone, any more than Blood is (for they hold them all to be excrementitious, when separate) so they conceive they all together in a certain proportion make up that aggregate called *Nutritive Blood*: and are all actually there, because they do observe that all of them at sometimes have their distinct corruptions, though they continue still in one mass; which they conceive they could not have, except they were actually there: They do conceive them to be so there, that the resemblance betwixt Gall, or extravasated Phlegm is but *Analogical*: so that they do not pretend to shew in the Blood a bitter Gall, or a ponic arminonious Melancholy: They will not allow these to be other than depravations of the Alimentary Humours: and the sincere alimental juyces are no more pretended to be evinced by them; then the pure Elements, except it be *a posteriori*, by a diversity of effects arguing different causes. They saw there was a great latitude in the blood of healthful men, yet so as that the blood appeared with different colours, and consonant to the colours there seemed a variety in their dispositions, and other corporeal qualities: they saw the Mass of blood upon perfrigeration to go into several substances, and they intellectually disjoined them more, for doctrine-sake; obliging themselves to produce each Humour in its imaginary purity, when the

Balloon definit.
Medic. p. 7.

the Chymical fire should exhibite any body not compounded, or the Corpuscularians make more manifest their configurations of Atomes, or Texture of Particles.

Having thus stated the Question with as much perspicuity as I could: I pursue to enquire which is most conformable to the effects in Physick; for I will not undertake to determine what God and Nature do in the production or mixture of bodies: It is easie for a man to loose himself in those inquiries: He that made us can tell how we were made; our Argumentations are as vain as if one should assert that a Loaf of bread consisted of Cubes, Lozenges, or Trapeziums, because we can cut it into parts of such a configuration. Let us but imagine a subtle Chymist to analyse Chymically our Ale, if ever he thereby discover that it is the product of a Barley-corn growing into a stem and grain, then turned into Malt, grinded, boyled with water, and fermented; I will assent unto the Chymical resolutions of blood: Physicians have been alwayes allowed hitherto to be a sort of gross Artisans; and I remember Massarias somewhere calls it an Hippocratical demonstration: Indicium autem Curatio. To know bodies exquisitely mixed, and to mix them intimately, is a divine attribute: this last is avowed by Galen. *Miscere corpora tota per tota, non Hominis, sed Dei & Natura est opus.* Perhaps it may be replied that the most ignorant persons may say thus much: It is true, and if he speak it knowingly, I confess I can say no more than he. *Sed quod dicimus objectioni illi? Ignarus aequa ac philosophus deum causam omnium assignabit: Hoc ignarus inscienter, philosophus scienter assignabit: quemadmodum Aristoteles ait de Parmenide & Meliss:*

De re ipsa ut neque dubiates, morbi morborum curationes docent. N. mirum hoc est maximus argumennum Hippocratis, ait Massarias. Von der Linden disp. Phys. c. 2.

Lacuna Epit. Cislent de temper. l. i.

Francisc. Sanchez de longis.
& brevit. vita. c. x.

quemadmodum cæsis alicujus tunicam albam esse affe-
rit.—Nil scimus. Dicamus ergo. Primarum rerum,
principiorum, aut elementorum causas reddere, nostri
non est captus: secundarum vero, utcunq;e. Id in
singulis questionibus experiri possumus.

I say then that notwithstanding any allegations to the contrary, it is manifest that a certain proportion of salt, sulphur, and spirit, besides earth and water, is neither requisite to perfect sanity, nor its defect as to any particular, the cause of diseases: and this is manifest out of the constitution, as well as colour of the blood, in morbid and healthy bodies, as appears by the burning and distillation of blood: There is much of truth that —

I have lately bled a Woman which after a Quarantie was troubled with obstructions of the Spleen and Liver, effervesences in the Intestines, Asthmatic possets, acute pains in her head, obtuse pains in her limbs, visible beginnings of a Dropsey; the blood at its issuing out seemed very black, but was pretty laudable in the porringer: it burned well, without any crackling or intumescence almost: so did the Serum: Here the salt seems rather defective, than to abound, as it ought by those principles.

T. T. says, or may be so. " Now I am ready to discover in reference to miserable man: that the pretended sanguine sulphur or Cacochymy of any in an high Feaver doth afford more salt, water and earth, each of them, than sulphur. I have taken that diseased blood termed corrupt, which might seem to some to abound with sulphur, being clearly conveyed into a Retort with a Receiver joyned thereto, I have by a graduated fire regulated very strictly, brought over what possibly I could. In the upshot upon the separation of the several parts, I have found very little sulphur in comparison of each of the rest.

" At another time I procured the purest blood I could get from an healthful person, putting it to the same igneous tryal, as the former degenerate of equal proportion to it: then after sequestration of the parts, I could not perceive any considerable difference in the quantity or quality of the several parts of that sound and the seemingly corrupt blood.

I do say that in the *Blood* of all persons that are in *health*, there is upon *Phlebotomy* somewhat that justifieth the *supposition* of the *Galenists*; but not which confirms the *Hypothesis* of the *Chymists*. The *coagulable serum* doth commonly represent their *choler* in part: the *florid fluid* red their *blood*: which if lightly washed away, there is another more *darkly-coloured* which is proportionate to their *Melancholy*: and if you wash the *fibrous mass* well, it will be *white*, and answerable to their *Alimentary Pituita*, or *Phlegm*.

In this *last part* I have the concurrence of *Malpighius*, who upon washing all the *blood* from the *concrete Mass of blood*, found the remainder to be a *fibrous texture* of a *whitish colour*, which he pitcheth upon as the materials for a *Polypus in the Heart*: And had he taken more particular notice of that *fluid blood* in the *cells* of those *interwoven fibres*, he might have discovered *two sorts of blood*, one that readily ascends, and is *florid*: the other more *black* and *fæculent* which moveth not: and both these stain the water they are washed into with *different reds*, the one much brighter than the other.

That some *fibrous concretion* in some diseases, as *Rheumatismes* and *Plurisies* covereth like a *pituitous mass* the *surface of the blood*, whilst that remains *fluid* and *blockish* underneath: nay I have out of *healthful blood* in the *Spring* (I am almost convinced that the *blood* varieth with each quarter of the year) cast it up to the *surface* in *just such a mass* as covers the *top* of the *blood* in those *distempers*, by putting some *spirit of Harlshorn* into the *Porringer* before the party bled into it. I place the *choler* in the *serum*, not but that I know that it hath not the *taste* or *consistence* of the *excrementitious Bile*, but because it hath frequently the *colour of it*, and the *Urine*, and *Pancreatick juice* (not to mention the *Lymphæducts*) are tinged with it, and

*M. Malpighi,
de viscer.
structura.
p. 153, edit.
Londinens.*

*In quibus superficies san-
guinis durior est & candi-
cans, subjectus sanguis in
pelui fine fibris plane est
putridus; imo vidi in hu-
iusmodi, ne guttulam colo-
ris rubri. Bonobil de la-
eteis dubia, c. 3.*

Oftentimes have the *sapor* of it : I am sure that herein I have the *suffrage* of *Pecquetus* thus far, that the *choler* which is separated in the *Liver* (and which tingeth the *Urine*) is extracted out of the *serum* of the *blood*, where it circulates first along with it, and is percolated out of it in the place aforesaid.

Et vero nullibi per universas animalium species absque bilis mixtura sanguinem reperiens : slave scens id serum salsumque restatur ; nisi forsitan aliquot in suppositis quibus dulcem mitior natura sanguinem concoxit, sed cum & in aliis, quibus acciditatis expertem infudit, aut nullo prorsus liene instruxit, aut fane perexiguo.

I cite him the more willingly, because that If the Galenists seem infatuated for saying the *Gall* is a constitutive part of the mass of blood, (whereas they cannot demonstrate signs thereof by its bitterness) a great part of the scorn may fall upon *Pecquet*, *Backius*, and *Sylvius*, *de le boe*, and other Neoterics, who hold it is incorporated in the Mass of blood.

But these Controversies can be no better decided than by an Enquiry into the Generation of Blood, how that it is at first begun, and afterwards continued : the knowledge whereof will conduce much not only to the decision of that Question, Whether there be in Nature any foundation for those Galenical Humours, that they are constitutive parts of the Mass of Alimental Blood ? But also to the main debate in hand Concerning Phlebotomy:

There is not anything more mysterious and wonderful in the Universe I think then the production of Creatures : In so much that *Longinus* a Paynim doth hereupon take occasion to celebrate the judgment of Moses, in that He represented the *Creation* by a Divine FLAT, and God said let there be —— and it was so. The Mechanical production of Animals from so small and

Vide *Pecqueti* Dissertat. Anatomic. de circulat. sanguin. c. xiii.

Videtur humor fellius sanguini firmiter adhaerescere; quod in seri illius parte fundatus sit, nec facile ab illo, intra ulteriorem præparationem separari possit. *Charleton. oeconomic. Animal.* c. 7. sect 16.

and tender rudiments, out of a resembling substance, in all that variety which we see, by a necessary result of determinate Matter and Motion, is so incomprehensible and impossible, that were not this Age full of monstrous Opinions (the consequent of Ignorance and Inconsiderateness) one would have thought no rational Men, much less Christians would have indulged themselves in the promoting and propagating such Tenets.

'Tis an effect of that sovereign command that every thing hath its being and faculties;

"Quin nil aliud est Natura, quam iussus ille Dei, per quem res omnes hoc sunt quod sunt; & hoc agunt quod agere iussa sunt."

Ego sum disput
de propriet.
Medic. c. 15.

"Hic, inquam, non aliud quicquam, cuique rei suam dedit

"speciem & formam. Per hunc non agunt modo pro

"sua natura, hoc est, prout preceptum est ipsis, res creatae

"omnes, sed per eundem reguntur, conservantur, propa-

"gantur: Et nunc etiam quasi creantur. This is that

which gives a beginning to the *Fetus* particularly, and by unknown wayes contrives the *seminal virtue*, its

receptacle or *Egg*, and that *colligavent* out of which

the *Body* is formed. Because the first rudiments of con-

ception are tender and minute, such a provision is made

in order thereunto, that the *albino* substance of

ordinary Eggs is no other than what is derived into the

female womb: And if we may continue the compari-

son, it will seem most rational to imagine, that the parts

of the whole are contrived at one time, though they

neither appear all at the same, nor in a proportionate

bulk; for in some their minuteness, in others their

whiteness and pellucidity conceals them from the Ob-

server: But that even then there are exerted the pro-

biles of those vital operations which are so visible after

in Nutrition, I doubt not: and that as in the Coates of

our eyes the minute veins and arteries convey their en-

closed liquors (though undisernable except in Eyes

that are blood-shotten) and as in the brain there hath

been discovered veins by some drops of blood issuing

This is the
opinion of
Dr. Highmore,
Velthafius,
Courvée, and
Everanus.

b. Iac. Wopf.
 de apopl.
 p. 92. &c.
 Bifchism de
 dentil. c. 20.
 Th. Korking.
 Obs. Anatom.
 e. 17.

in *dissertation*, though no *Eye* can see most of the *capillary vessels*; and as even the *veins* and *arteries* themselves are thought to be nourished by other *arteries* and *veins*, rendering them that service which they do to the more *visible* parts: even so it is in the *first formation*, wherein after some *progress* the vessels begin to appear, and *blood* first discovers it self in the *Chorion*, and thence continues its *progress* to the *punctum sanguiniens*, or *heat*, and undoubtedly proceeds in its *Circle*, though the *smallness* of the vessels (as in other cases) conceal the *discovery*. So that we may imagine that the *Plastick form* (or whatever else men please to call it) doth produce the *blood* out of that *albuginous liquor* (which seems as *dissimilar* as the *blood* out of which it is derived, though the parts be *providentially* more *subtilised*, and *refined*) by its own power (as it doth the rest) through the assistance of *warmth*, and concurrence of the *contemporary fabrick*: for the *first blood* can neither give a beginning to its self; nor is it comprehensible, how the *weak impulse* thereof should shape out all the *veins* and *Arteries* in the *body*, according as *they are situated*. Out of which it is evident that the *Soul* or *Plastick form* doth at first reside and principally *animate* in the *Spermatic parts* (so called not that they are delineated out of the *sperme*, but out of the *Colliquament*, which is *Analogous* to it) and that *they* are her first work; the *blood* is but the *secondary*, and generated out of the *Colliquament* (for other *Materials* there are none) by the *Plastic form* which is the proper *efficient* thereof, and besides the *Auxiliary Heat* there are no other *instrumental aids* but the *spermatick vessels* wherein the *Colliquament* at first flows to the *punctum album*, which when *blood* is generated do become the *Heart* and *sanguiferous channels*. This is avowed by Doctor Glissen himself:

Glissen Anat. "Liquor hic vitalis, antequam sanguinis ruborem induit,
 Hepatis c. 35. t se se a reliquis ovi partibus (quibus promiscue commisce-
 " tur)

*sur) segregare incipit, & in rivulorum seu ransificationes
quas dum excurrere, quæ postea venas evadunt. Rivuli
isti in unum punctum colentes, in eum locum conveni-
unt, qui postea punctum saliens & cor appellatur. Idque
sieri videtur, dum antequam sanguinis aliquod vestigium
compareat.*

Hereswith agree the most exquisite Observations of Doctor Highmore. Most certain it is by Dr. Highmore
the History of Generation, that no Parenchymatous part hist. of Gen.
hath any operation in the first production of the blood; c.8.p 69,70.

all their Parenchymas being post-nate thereunto. And if the blood be thus generated at first, it is but rational for us to imagine that it is alwayes so generated during life: For as it is true that the same cause acting in the same manner will alwayes produce the same effect: So in this case to argue from the identity of the effect to the identity of the cause, is allowable. *Est enim causarum identitas quæ facit ut effectus sit idem: quippe effectus supponitur non esse, donec a causis existentiam suam indeptus fuerit;* & dum existentiam illam largiuntur, oportet ipsius quoque identitatem impellant, quia sine effectus ipsem nequaquam fuerit, That the Spermatic vessels in which the blood moves do contribute to sanguification much, seems apparent from hence: that the blood is seen in them before it is in the heart: And because it is observed that the fluidity of the blood seems to depend much on them; and therefore in the dead it doth not coagulate (except præternaturally) in the veins, though it do commonly in the Heart, or wheresoever it is extravasated.

Manat præterea altiquid a venis nobis incognitum, quod dum earum ambitu sanguis concipitur, prohibet ejus concretionem, etiam post mortem in cadaveribus jam perfrigidis, ne quis hoc colori acceptum ferat: quod vero coralliorum instar aliquando repertus est concretus in venis ipsis, hoc merito Fernelius ascribit morbo occulto. And not only the fluidity but motion of the blood seems to depend much thereon: for if by a ligature the impulse and succession of blood be prevented,

Gliffen. Anat.
Hepatis. c.35.

Greg: Horblus
Insti. Medic.
disp. 3. Co-
ron. 1. Ap-
pend. con-
clus. 4.

Berigardus
Circul. Pifan.
1. part. 6. circ.
7.—Aperta
numq; in ca-
davera vena,
sanguis pro-
fluat. Ent. de
circul. sang.
sect. 137.

prevented, yet will the blood in the veins continue its course, and not stagnate. Exempto e corpore corde, motus tamen sanguinis, isque satis celer in sanis videntur. Et si vena ulla, etiam laetea, duobus locis ligetur, laxata ea sola ligatura qua cordi propinquior est, dum partes adhuc calent, semper Chylus ad hepar, sanguis ad cor cunctus movebitur: qui nec a corde per Arterias, nec ab intestinis per laetessas, obiecto potuit obice propelli: nec fluiditate sua potius sursum quam deorsum movetur. The truth hereof seeming undenieable to Pecquet, he makes use of a new Hypothesis to solve this motion of the blood, as if it arose from compression of other parts, or contraction in the vein it self: But the Phenomenon will appear in such cases as admit not this pretence. From these reasons it is that the blood doth not need so much as any pulse in the veins and arteries (as appears in the first fetus) but as soon as it comes to the Heart it does (to prevent coagulation) the punctum saliens (being endowed with no such quality) practiseth its systole and diastole, when yet no such motion is observable in the Arteries at that time. Whence the colour of the blood ariseth, is a secret unto me: I know that digestion reduceth some Juyces to a redness: in some Fruits the fire doth the like: in some the mixture of acid Liquors begets a Vermilion: But here I conceive none of these causes produce the effect; the generation of the blood is manifestly an Animal Action, and, as such, unsearchable. Whatever I attribute to the veins, it is not to be expected that supposing they should instrumentally sanguifie, the blood should turn blew from them, any more than that water put into new vessels of Oak should turn white, whereas it becomes reddish. Thus the Plastic form produceth blood at first, and whilst there is no first conception in the stomach, supplieth that defect by that albuiginous Colliquament which is of the same nature with the Chyle we digest our meat into, and convey by the Laetuous Thoraciducts into

Walem de
motu Sang.
epist. 2.

Pecquet dis
sertat. Anat.
de circulat.
Sang. c. x.

into the *Heart*. That it is of the *same nature* appears hence, that it resembles it, and that it is extracted from the Blood of the *Mother*; and produceth in the *Embryo* the like excrements of *Choler*, and *Urine*, and *Mucosities*; nay it hath been observed by *Riolanus* to have been tinged *yellow*: How much more may be concluded hence in favour of the *Galenical alimentary humours* supposed to constitute the *Blood*, I leave those to judge who consider the variety of *female constitutions*, and their condition during their *being with child*: perhaps the *Hypothesis* of a proportionate mixture of the five *Chymical Principles* will not seem more colourable?

Riolanus Am.
thopogr. l. 6.
c. ult. p. 411.

Having thus related how *Sanguification* is performed in the *Fetus* at first; I come to give an account how it is performed afterwards; and even here it seems an *Action perfectly Animal*: for even *Concoction* in the *Stomach* is not the bare effect of *Heat eliciting the meat*; nor of *acid* or *saline Ferments* dissolving it; nor of any other kind of imaginary *Fermentation*: But 'tis the effect of an *Animal power* operating upon the *Meat* in the *stomachs* of *sundry Men and Animals* by several *wyses*: This appears most evidently herein, that the *same meat* eaten by *several Persons*, or *different Animals* produceth *different Blood* and *different Excrements*: therefore *Chylification* is an *Animal operation*, and is modulated by the *specifick and individual constitutions*. Having thus determined of things, that the *soul* in all these actions is the *Efficient*, we may consider that the *meat* being *masticated* in the *mouth*, and commixed with the *salival juyce* or *spittle*, is prepared in order to *Chylification*: then it descends into the *stomach*, and is there (sometimes in a longer, sometimes in a shorter space) reduced into a *cremor* which is so far from being *acid* (as *Helmont* saith) that it is generally rather *saline*, as are also the *recrements* of it that remain in the empty *stomach*: It is true that according

Concerning
Concoction in
the stomach
see the excel-
lent discourse
*of *Mabius de**
usu ventriculi
fusidam Medic.
c. x where he
resolves it is
done by an
Animal heat,
or Spiritus
vitalis vegeto-
calore prae-di-
sim.

Vide *Mabius*
ubi supra: &
Kerger. de
fermentis secu-
3. c. 2. p. 202,
201.

cording to the *stomachs* of *Individuals*, and the *meat* they eat, it happeneth so that this *Cremor* hath no certain *taste*, nor *colour*: Undoubtedly it must have been *bitter* in that *Marriner* (and such as he) of whom

Vesalius de fabric. hum. corp. 1.5 c.8.
Vesalius writes, that the *Gall* did naturally discharge it self into his *stomach*, yet did he digest very well, and never was apt to *vomit*; or to be so much as *seasick*.

Reusferm de urinis. c. 3. p. 42.
From the *stomach* the *Cremor* descends into the *Intestines* (not all at once, but as it is digested) and there undergoes a *second digestion* receiving into its *mixture* the *Gall* and *Pancreatick juyce*: I shall not speak of the *variety* that hath been observed in those *two liquors*, nor trouble my self about the manner how they operate on the *Chyle*: It is manifest that upon that mixture the *Chyle* suffers a great alteration (if not some *effervescence*) and some parts are *coagulated* and as it were *precipitated*, and by a *succession of changes*

Dr. Needham deformat. fact. p. 101, 102.
the several particles are so blended, and refracted in their *qualities*, that the *excrements* at last are neither *acid*, nor *bitter*, but (in dogs) both *sapors* are extinguished. In the mean time, during this descent of that *miscellanea* the *lacteous vessels* do imbibe and convey the *Chyle* in the shape of *Milk* to the *Receptacle*, where mixing with the recurring *Lympha* (which is sometimes *yellowish*) it passeth through the *Ductus Thoracicus* unto the *Heart*; and in the *Subclavian* vein associating with the *Blood*, it passeth along with it, supplying the continual *decay of the Blood*, and yielding Nutriment to the parts, and new matter for *excrementitious humours*: yet so as that it is not all transmuted into *blood*, or perfected, at one *passage* through the *Heart*, but by repeated *Circulations*, whereby it comes to loose its *lacteous colour*, and contract a more *saline taste*, as well as a *serous limpidity*, or some more degenerate colour: yet it is still *coagulable* (except in a morbid state) like to the *white of an Egg*, as the *deprurated Chyle* is.

Dr. Lower de corde. c. 5.
It were easie to pursue this discourse so as to demonstrate

demonstrate that neither the separation of the Urine in the Kidneys, nor of the Gall in the Liver, nor of the Spittle in the Glandules are other than vital Actions, wherein the same form which at first shaped the Body is principal Efficient, and that in these Operations there is somewhat more than percolation of corpuscles differently seized : But I shall conclude this discourse by accommodating of it to the defence of the Galenical Alimentary Humours supposed to constitute the Blood: It is manifest in this History of Sanguification that the Pituitous liquor which is derived into the Mouth by the salival vessels is most agreeable to that which is by the Galenists called Phlegme: it is not like the serum in the blood, for it is not coagulable, as the other: 'tis insipid; and as it makes so considerable a part of the chyle in the stomach, so it may well be presumed to continue its intermixture unto perfect Sanguification: As for the Gall, as its intermixture in great quantities with the Chyle is undeniable, so 'tis not improbable that it gives a fluidity to the Chyle beyond what it acquires in the stomach: thus Painters to make their colours and oyls more fusile, and accommodated to their use, do mix Gall therewith. That upon the mixture it should loose its bitterness and become sweet and alimentary is most agreeable to the Galenists, and no wonder: for the savoris as well as colours of liquors are easily altered: and 'tis manifest that this happens in the descent of the Excrements through the tract of the Intestines: and why not in the venæ lifæ? there are signs of it in the flavidity usually observed in the Arterious blood: and 'tis remarqued by Judicious *Mæbius* concerning the blood, that it is not Homogeneous.

" Habet enim sua stamina, & nigricantes fibras: habet serum salino principio imbutum ad putredinem eludendam: habet partem subtiliorem splendente rubore excellentem, superficiem in extravasato cruento ambientem: Et hæc in recessu videtur custodire BILEM ALI-

Platerus
Quæst. Phy-
siolog. 17.

Mæbius fun-
dam. Medic.

c. 14 p 319.

' MENTAREM, flavidine sub insigni rubore abscon-
 ' dita. Quæ ex rubro nigrant, flavedini si miscean-
 ' tur, talen splendentem ruborem exhibere, cuivis cla-
 ' rum est. The bitterness which it hath is produced
 by the Liver upon its separation there, which is not
 done by meer percolation, but an accessional of trans-
 mutation there. As for Melancholy, how much the
 Pancreatick juyce resembles that (when it proves not
 to be bilious, as *Veslingius* and *Virfungus* alwayes ob-
 served it to be) let any man judge by what *Regnerus*
de Graeff hath most ingeniously written thereof: be-
 sides that the more black part of the blood seems as
 essential thereunto, as the more bright Red. But the
 Degeneration of the Blood into those Excrementitious
 Humours, seems to evince as much as the Galenists pre-
 tend unto; since every thing is not produced out of eve-
 ry thing, but out of determinate matter: 'tis not incon-
 gruous to imagine that in the due constitution of the
 Blood there is an Analogical difference of Alimentary
 juyces to make up good Blood, since there is such a
 discrepancy in those depurated from it; upon which the
 soul, by the innate temperament of the parts separating,
 doth so operate that its effects are modified by the na-
 ture of the subject matter: Hence that variety in the
 tastes of Urine, which is sometimes so bitter that Gall
 doth not exceed it: sometimes sweet; so that Fonseca
 relates of a Portuguese Peasant, who by the sweet-
 ness of the Urine would tell who were infected with
 the Plague.

Fonseca de
 Excremento.
 &c. de Urinis.

The Gall appeared in great variety to *Vesalius*:
 ' Longum sane esset, ea que in quibusdam tertiana &
 ' quartana laborantibus, & dein suspendio aut capite
 ' plexis, in furoris & mania oppressit obseffis, in melancho-
 ' lia morbo effectis, ex variis febribum (que continuæ
 ' fuerunt, & rigorum & sudorum inordinatos circuitus
 ' faciebant) generibus extintis, fædo ilero, eoque va-
 ' ria vexatis, malo habitu diu pressis, & dysenteria crur-
 ' ciatissimis.

Melissi ubi
 supra p. 338.

Vesalius Exa-
 min. obs.
 Bellop. p. 191.

ciatis, subinde reperi, modo commemorare: Sive sci-
licet hic insignem biliis nunc flammæ, nunc atramenti
quo scribimus in modum atrae, sive albicanis prope-
modum colorem (qui fere conterminas partes inficeat)
sive fluidam, aut luti modo, aut unguentū cuiusdam ex
farinis & melle & terebinthina apparati rito consi-
stentis substantiam, sive variis calculorum effigies, si-
ve biliis vesicula molem instar duorum pugnorum ob con-
tentia tumidam, sive omnis biliis defectum, recenserens.
Quæ omnia me de his vesicula natura adhuc magis
quam antea habent sollicitum, As to the Pancreatick
juice its variety is no less observable: So for the Phlegm,
and Blood it self.

*Regner. dī
Graeff de
succo pan-
creatis. § 45.*

Having said thus much in behalf of the *Ancients* against some *Dullmen* of this Age, who laugh at any one that mentions but those *Humours*, I might proceed to demonstrate practically their several motions in disease, and justifie the Medicinal Documents created thereon by such instances as countenance thereunto: But the digression would be excessive; I return therefore to the principal Discourse, and shall from what hath been said erect an *Hypothesis* concerning *Plebotomy* which will authenticate the received practise, which is so judiciously and happily followed by all prudent men.

1. If it be true, that there is so great a *Quantity of Blood* in the body, as I have evinced, then may we very well suppose, that the *loss of a few ounces* is no great *dammage* to the Patient.

2. If it be true, that so great *effusions* of Blood have happened to several persons.

sions without any *subsequent prejudice*: If it betrue, that *large Phlebotomy* even *usque ad Lipothymiam* hath been *successfully practised*; then is it evident that our *partite* and *diminute Phlebotomy* may be *safely continued*: and that *whaisoever ill effects follow thereupon*, the default is not to be ascribed to *Blood-letting*, but to the indiscretion of him that *ignorantly made use of it*, or the *unknown idiosyncracy of the Patient*, or the over-ruling *Providence of God* which disappoints frequently the most *rational* and *best Methods of curing*. *Quædam ejus sunt conditionis, ut effectum præstare debeant: quibusdam pro effectu est, omnia attentasse, ut proficerent. Si omnia fecit ut sanaret, per regit Medicus partes suas: etiam damnato reo, Oratori constat eloquentia officium, si omni arte usus sit.*

*Senses de be-
nit. I. 7.*

3. If it be true, that there is so great a *variety* and *discrepancy* in the *Blood*, then is there no *secure judgment* to be made of the

the *Blood* issuing out of the *vein*, either to the *continuing* or *stopping* its *Flux*: But the *Physician* is to proceed according to the *Rules of Art*; and accordingly as they direct him, may he *promote*, *stop*, or *repeat* the *evacuation*: A seeming *Cachochymy* in the *Blood* doth not impede *venæfæction*, nor call for *purging*, and *rectifying*: Nothing is *evil* that is *natural* to a man; but real *Cachochymy* or *redundance* of *Humours* offending Nature, this doth call for our *assistance*, and requires sometimes *Pbleotomy*, and sometimes other *Medicaments*.

4. If it be true, that *Sanguification* is an *Animal Action*, if it be true that the *Plastick form* is in being before the *Blood*, and produceth *it*, and the *whole Fabrick*, and *subsequent operations*; and that the *motion* of the *Heart* is proved by Doctor *Lower* to depend upon the *Nerves* during life: then is there no such *strict connexion* betwixt the *Soul*,
Life,

Life, and *Blood*, as —— G. T. doth fancy.

5. If it be true that the *Blood* doth continually *waste* and *spend it self*, in *Nutritment* and *Excrements*; then is it manifest not only that the *loss of a little Blood* partitely taken away is not the *loss of life*, or *prejudicial* thereunto. Neither doth it follow that the *loss of Blood* in a *moderate quantity* is any *imminution* of the *vital Nectar*: it is neither the *chief residence* or *seat of the Soul*, nor in a *determinate quantity* *requisite* to the *continuance of Life*, but comes under a *great latitude*: It abounds more in some seasons of the year, and times, than at others: and why may not *Artists* imitate *Nature* in *diminishing* its redundancy upon occasion, as *she* does? As long as he proceeds not to exhaust *all*, or *too much*: The *loss* is *easily* repaired upon *convalescence*, and the *quantity* is more than can be governed by *Nature* in *sickness*; 'tis but the observation
of

of a Geometrical proportion in such a Phlebotomist. The same Agent will produce the same effects: if Nature be corroborated, and the vitiated *tonus* of the *concocting* and *distributing* vessels be amended, there is no fear of wanting a new supply proportionate to the exigence of the Patient. The Blood we take away is no other than what would be *expended* or exhausted *naturally* within a few hours, or dayes, as the Staticks shew: and it must needs be considering the quantity of Chyle which flows into the veins upon *eating* and *drinking*.

6. If it be true, not only that Nature doth thus *expend* in *transpiration* and *Excrements* as well as *Nourishment*, much of the Blood, and repairs her *defects* by a new supply (whereby *Life* is continued, not impaired) so as that the *melioration* of the following Blood is rather evident in his first years by his *growth*, *vigour*, *strength* and *intellectualls*: But also that She doth of

S

her

Bouillie de
vene sech.
c. 15.

Hippocrat.
sect. 3. Aphor.
27. 20.

her self make *men* and *women* apt to bleed at *some times*, *ages*, and *seasons* (which is known to all) then is not the effusion of this *solar liquor* so unnatural a thing, nor so *homicidal* an *Act*, as 'tis represented. 'Twould seem a strange *Law* that should punish every *Boy* that breaks the *Head* or *Nose* of another as a *Bronchotomist*, or *Cut-throat*.

If it be true, that *Nature* doth often-times *alleviate* even in the *beginning*, and in the *end* *cure Diseases* by *spontaneous evacuations of Blood*, at the *Nose*, and *Uterus*, by *vomiting* and *stool*, then a *Physician*, whose business it is to *imitate Nature* in her *beneficial Operations*, is sufficiently *authorised* and *impowered* to practise due *Pblebotomy*, by the best of *Presidents*.

Having premised *these Conclusions*, which are all either proved in the foregoing discourse, or evident in themselves to all understanding men: I shall proceed to give an account of the *Reasons* why *Physicians* do so frequently, and in so many *Diseases* practise *Blood-letting*:

ting; and those deduced from its variety of effects in Humane bodies: For it is not a single Remedy subservient unto one Indication, or End, but conduced to many, and therefore made use of upon several occasions to different intentions. *Vile est id remedium ad quamplurima, & vix potest in ullo magno morbo non esse aliquid, cuius gratia utile sit.*

*Viles. Meth.
med. I.4.c.2.*

Before I come to particulars, it is necessary I tell you that in the cure of all diseases Physicians propose unto themselves sundry considerations: they regard the disease, the antecedent causes, and the symptomes which attend or will ensue thereupon either generally, or in such an individual constitution: they employ their cares to prevent some inconveniences, as well as to redress others. Some remedies they make use of because they are necessary; of some, because they are beneficial, yet may the disease ('tis granted) be cured o' herwise, in case the Patient have a reluctancy thereto, or for some private reasons the Physicians esteem it fitting to alter their course. Upon this account 'tis asfented unto, that many distempers may be cured without Phlebotomy, which yet are ordinarily cured with it, or may be so: And herein the disagreement of Physicians, or different procedures are all according to their Art, nor is it denied but that All of them may atchieve their ends by their several Methods. So that it is a gross paralogisme for any one to conclude this or that Physician is mistaken, or takes a wrong course, because another takes or prescribes a different one. All the Physicians in Spain, France and Italy do not bleed with equal profusion: In Germany and England some do practise more frequent Phlebotomies, than others do: and neither of the parties do erre, in case the other remaining Method be inviolately observed. It is in humane bodies as it is in the body Politick, where there is a Method of ruling, though it be carried on by several wayes

and means ; and whilst each *States-man* doth prudently sway the Government, procuring peace and plenty to the subject, his conduct, though it vary from that of his Predecessour, is not to be blamed. It is not to be doubted but that many *grievous distempers* are cured by *Nature*, without the use of any remedies at all : Yet will no *wise man* adventure his life on such *incertainties* : 'tis not to be denied but some are cured with fewer *Remedies* than others are : But yet 'tis not *prudence* to put *Nature* upon *too great a stress*, or to account all means *unnecessary* which are not *absolutely requisite*, or without which the *effect* may (though with *more difficulty*, and *bazard*) be brought to pass. It lyeth upon the Physician therefore to pursue *all those means* which may secure the life of his Patient, to alleviate the disease in its course by preventing all *troublousome* and mitigating all *dangerous symptomes*, and to facilitate as well as hasten *his recovery*. It is not questioned but Patients have been and may be recovered of Feavers with *little* or *no blood-letting* ; yet when I consider the *great bazard* they run in *that course*, the *vexations* and *perillous symptomes* which they languish under *longer* and with *more violence* than others, I cannot approve of the *practise*, nor think the Physician dischargeth his *duty* and a *good conscience* in so doing : *Extremis necessitas in moralibus, ut certum est, vocatur, quando est probabile periculum* : and the Patient doth offend against himself, if he refuse to take a *befiting course* against dangers that *probably* are impending : and the Physician doth trespass against *his neighbour*, if he do not propose and practise such a course.

Riolus de circulat sanguinis
c. xx. Antho-
graph. p. 585.

" I
" cannot (to use the words of the incomparable *Riolus*) I cannot without pity to the sick, and some
" resentment against the Physician, read in *Platerus's Observations*, how fundry of his Patients were broyled
" and torrefied with *burning Feavers*, whom he never let
" blood. He doth relate of himself, how he was sick of

* a most burning Fever, yet did he never so much as let
 * himself blood therein, albeit that it were requisite in
 * those cases. Such are not obliged to their Doctors,
 * but peculiarly to the Divine Providence for their re-
 * covery.

It was the *mature* consideration of that tenderness wh
 is requisite in *Physicians* towards their *Patients* which
 advanc'd the present course of *Physick* to its glory above
 all other *Methods*: it being endeared to our esteem by
 all those regards that represent it as *prudential*. It was
 not introduced by *chance*, or the *subtlety* of some per-
 sons, but the *choice* of all, and so established by the *Ma-*
gistracy, that to transgres against the *traditions of this*
Art, was *criminal* in a *Physician*, even by *our Laws*. It
 may in *some cases* seem to be *troublesome* and *unplea-*
sant: yet *S A F E T Y* requires it: It may seem *te-*
dious sometimes by *multiplication* of *Medicines*; yet
Prudence obligeth by *all those means* to *preserve*
 and *secure* life; and if the *omission* thereof be *cri-*
minal in a *Physician* (in case of any *sinister accident*),
 why is not the practise *laudable*? Would Men but
 seriously consider *How much danger they run*, and *How*
much more they suffer upon the *negligence* or *indulgence*
 of a *Physician*, who leaves all to *Nature*, and adviseth
 them to *wear out a distemper*, they would rather *hate*,
 than *love* such a Man; and the apprehension they
 should have for the *unnecessary jeopardy* he put
 them on would extenuate *his credit* very much: The
 most *rash* and *brutish* counsels may succeed well; but
 yet the most prudent are to be preferred.

Amongst *Physicians* (I do not reckon the *Helmontians* as any) there is no doubt but a *Plethora* *in-*
disposition requires *Phlebotomy*; *Nature* being sur-
 charged with *blood* forceth us thereunto, least some
 vein should break in the *Lungs*, or the *Patient* be
 strangled with *that excess*: this is called *Plethora quoad*
vasa: when the vessels are so full of blood, that there
 is

is danger of their breaking ; or that the blood should stagnate in the Heart, Lungs or Head, there wanting room for its motion : or take some inordinate course, and so strangle the Patient.

There is another redundancy of Blood which is called *Plethora quoad vires*, or such a plenitude of blood as brings along with it no apparent hazard of breaking the vessels, yet doth it oppress Nature so as thereby to become redundant : It is more than she can bear in the present juncture ; 'tis more than she can rule, and it will suddenly fall into an exorbitant motion, to the detriment of some principal part, in case timely prevention be not used. In both these cases (in which the blood is not supposed to be much depraved from its natural estate) all do allow of Phlebotomy, and if it be timely put in execution, it may hinder the progress; however it expedites the cure of the disease. In these cases we consider not only the present plenitude, but also the future, what may be in a few dayes, to the great exasperation of the disease, and peril of the Patient : For it is possible that in the first beginnings of a disease there may be neither of these plenitudes, but they may ensue a little after : For when the insensible transpiration shall have been a while abated (as *inquietude*, *pain*, and *watching* will abate it) the Blood degenerates, and no longer continuing its usual depuration, those excrementitious particles which were lodged in the habit of the body and pores do remix with the sanguine mass, and become like so many fermentative corpuscles agitating and attenuating the blood, so that whereas before there was no plenitude, now there is : that the excrementitious particles do contract a fermenting heterogeneous quality different from what they had in the Blood appears hence, that those which sweat much (as the new-comers in the Indies) their sweat is less noysome and bilious by far, than it is in those that sweat more seldom : Thus soot is a different body

Sandor. Med.
Static. sect. 1.
aphor. 41, 49.
sect. 4. aphor.
7, 8.

from

from any thing that is burned. Hence it is that those particles being reimpregnated into the blood are so offensive to the nervous parts, and introduce a *lassitude*, as if the body were surcharged with a *plenitude*. Besides these two cases in which Phlebotomy seems to be directly indicated by a *Plethora* or *surcharge of blood*: It is practised in other cases by way of *revulsion* when the Blood and *intermixed Humours* flow into any determinate part, or are fixed there as in *Apoplexies*; *Squancies*, and *Pleurises*: for as upon *dissection* it is manifest, that in such diseases there is a greater efflux of Blood than upon other occasions, so it is evident by long experience, that Phlebotomy doth alter its course, and draw back the blood so as that sometimes after that the first blood hath run more pure and defecated, the subsequent hath been purulent, as if the *concurrent cause* of the *Plenisse* or *Squiancy* had been evacuated thereby. In reference to such fluxes of the blood to determinate parts, we usually consider what in all probability may happen, as well as what is at present urging: and therefore for prevention thereof we let blood upon great contusions and wounds. It is also practised by way of *derivation*, when we let blood near to the affected part, thereby to evacuate part of the *imparted matter*: Thus *Van der Heyden* did frequently let his Patients blood in the same foot for the *Gout*: Thus in a *Squiancy* to open the *Jugulars*, it is a *derivative Phlebotomy*. In all these cases all *Physicians* agree to the received practise: but in case that the disease be not merely *sanguine*, but seem to arise rather from a *Cachochymy*, or redundancy of evil humours, than any *plenitude*, or exorbitant motion of the Blood: here many *Physicians* cry up that Rule: That *Plethoraick Diseases* require *Phlebotomy*, but those that arise from a *Cachochymy* require expurgation. Here they accumulate a multitude of *arguments*; and undoubtedly, since so great men are of that side, it must needs.

*Sandor. Med.
Static. sect. 4.
aphor. 10, 11.*

*Van der Heyden Synopsis
discurs. disc. 2.
de potu frigida.*

needs be that they have cured those diseases without Phlebotomy. But the contrary practise hath so many abettors whose credit equalleth or exceeds that of the others; and Experience in a multitude of cases hath shewed the great efficacy of Blood-letting in a Cachochymy or meer impurity of the Mass of Blood: and so prodigious is the efficacy thereof in promoting transpiration, and opening all the emunctory passages of the body, in preventing of putrefaction, and expediting of the concoction, and in refrigerating the whole habit, that Hippocrates and Galen did resolve it in general, That whensoever any great Disease did seise upon any Person, if he were of Strength and Age to bear it, he ought to be let blood. The Arabians dissented from this practise, but Massarias (after Jachinus and the Florentine Academy) did prudently revive it, and solidly defend the Tent: and the happy Cures did so convince the World of the truth of their Assertions, that all Italy in a manner was presently reduced under them, and France and Spain; so that though they did, and do still in Spain and Italy retain Avicen to be read in their Universities as well as Hippocrates, yet herein they have abandoned the Arabians: and they which do adhear to that old Maxime of purging out the evil humours, when they abound, do also comply with the Hippocratical practise, and by new excuses accommodate it to their principles: So that as to most diseases 'tis agreed (though upon different grounds) what may or must be done. Few now are so timorous in bleeding as heretofore; and where that apprehension is still continued, the Physicians rather comply with the prejudicate conceits of the people, then act out of Reason. He that can doubt the strange effects of bleeding, notwithstanding the concurrent judgment of Physicians, let him either read over Prosper Alpinus concerning the Physick practised in Ægypt amongt the Turks (where Phlebotomy is the principal and

and frequently the sole remedy) or advise with any Farrier, and he will be satisfied that in a Cachochymy nothing is more beneficial, though it be particularly said of Beasts, that the Life or Soul is in their Blood. For my part I am sufficiently convinced of the solidity of their judgment who do much use Phlebotomy, and I have frequently observed that the best Medicaments have been ineffectual till after Phlebotomy, and then they have operated to the recovery of those Patients who found no benefit by them before: so that to begin the cure of most diseases therewith is the most ready and certain way of curing them: and to make that previous to purging, is the direct course to purge with utility. 'Twas most Oracularly spoke by *Valesius*.

" Facile concesserim vena-sictionem esse optimum omnium auxiliorum quibus Medici utuntur. Est enim valentissimum, & maxime presentaneum, & multiplex. Dico autem multiplex, quia & vacuans, & revellens, & refrigerans, & venas relaxans, & omnem transpiratum augens, quam ob causam (& est a Galeno valde celebratum) in nullo magno morbo non est opportunum, si vires ferunt, & puerilis atas non obstat.

When I considered the strange efficacy of blood-letting in several diseases, and that the discovery of the Circulation of Blood had rendered most of the Reasons which were formerly used to be more insignificant, or false: I was not a little surprised. I observed that the effects were such as did exactly correspond with their Hypothesis, and that the practise was not faulty or vain, though the principles were: neither ought any man to quarrel with or laugh at such Arguments as ('tis certain) will guide a man rightly to his utmost ends. 'Tis a kind of impertinency that swayes this Age; for 'tis not so much a Physicians busines to talk; but to heal.

It was most judiciously said long ago, " Ac nihil istas cogitationes ad Medicinam pertinere, eo quoque sensu. disci, quod, qui diversa de his senserint, ad eundem tamen

So Blondelus could not with all his Skill cure the Marquess of Cœure till he did bleed him) in a chronical terrible dysenterie: which he confesseth, though he writes against Phlebotomy in Epidemical dysenteries. *Valesius* meth. med. l. 4. c. 2.

men sanitatem homines perduxerint. — Itaque ingenium & facundiam vincere: morbos autem non eloquentia sed remediis curari. Quae si quis elinguis usum discreta benenorit, hunc aliquanto majorem Medium futurum, quam si sine usu linguam suam excoluerit. Neither did Hippocrates place any great value upon Philosophical curiosities, and Natural discourses, but esteemed it very well in Physicians if they could demonstrate by their success the solidity of their judgment, "Ἄλλο τοῦτο πάντας τὸν τέχνην ὀμοιώσει, ἃς εἰς ἔργον ὑπέρ,
Hippocrat. de ἡ ἐν τῷ λόγῳ ὀμοιώσει. ἢ τὸ λέγεσθαι μετανοῶσις, διὰ τὴν τινα
τοῦ πάντες οὐκ ἔτι ἀντὶ δικαιοτέρων πάνυποι, οὐδὲ οὐδὲ αἰσχροί.

I resolved with myself, that if the Circulation of blood and other modern discoveries taught us but the same practise we already followed, it was useless; If it contradicted it, it must be false; I observed that it was the great work of the wiser Novellists to accommodate the new Theories to an old and true way of practise; and perceiving that the effects of Phlebotomy were such as the Ancients insisted on, I perplexed my self in considering what there might be therein to produce so different effects: I abstracted from all common Principles, and called to mind the Opinion of the Methodists, who were a judicious sort of Physicians, and the most prevalent at Rome in Galen's dayes. They held that Diseases did not arise from peccant humours, since many lived, and lived long with Cachochymical bodies: and in diseases if in the beginning a multitude of humours (and such as Physicians ascribe the disease unto) be evacuated by vomit, sweat, or stool, yet the distemper continues, and becomes worse and more dangerous by reason of such evacuations: As little did they regard the first qualities of heat and cold, siccitie humidity, concluding them to have no immediate effect in producing diseases, but as they varied the symmetry of all or any parts of the body: the grounds they went uppon were such as were deduced from that Philosophy which makes Rarity and Density

Density the principles of all bodies; and they placed Health in such a conformation of the body, and such a configuration of particles as did best suit with its nature: they held that the intertexture of the minute particles of our bodies were such as admitted of an easie alteration, the fabrick being so exquisitely interwoven, not only in the solid vessels, and parts, but a commensuration of protuberances every where, the alteration of which texture of the body into a great laxity, or streightnes, and this change of the pores did they make the great causes of all Maladies, and the restoration of them to be the way to sanity, and this they called *μεταδύναμης & μεταμέμβολον*, or the variation of the texture and combination of Corpuscles, in the symmetry whereof they placed Health, and in the asymmetry or disproportionate and incongruous state whereof they placed all sickness. It was their Tenet, that amongst those Remedies which did most alter the texture of the body from streightnes to laxity, the most powerful were Phlebotomy, and Purging, and that their principal effects were not merely to evacuate such or such peccant Humours, but in doing so to create a new Texture and configuration of Corpuscles in the whole Body, and therefore they held them to be General Medicaments, and of use in most great diseases, since such distempers were rather occasioned by a streightnes than laxity of the pores, and even such as were laxe ONE WAY (as Dysenteries and Diarrhaes) might be accompanied with a streightnes in the habit of the body. This Hypothesis (for the further explication whereof I remit you unto Prosper Alpinus) having been of great renown, and most accommodated to the course of life by which the Romans (and since the Turks and others that follow not our Physick) did preserve their Health, and recover their Maladies, did merit my re-

Διὰ τὸ οὐργὸν τὸ τεγέν, ἡ
συρκάτης διεπίστει, ἔχε-
ιν; ὅπερ εἰ συμπεινά ποι-
ῦται ὁ συμάχος γε κολάζ-
τόρων; ἐταυτινής ἡ λο-
γος ἔχει μάκρος, πότε δι-
αστάτος ὑπελεῖν τὴν το-
ρον, ἡ μύρτα.
Cassius in problem. 71.

They seldom used purging, imagining it not fit till the body was prepar'd, and humours concocted. but they made much use of vomits.

gards : and I observed the truth of that part of their Opinion , which avows that purging and bleeding have further effects than merely the evacuation of Blood and other Humours : that they had such an influence upon the whole body as to restore and promote all the natural evacuations of the body by its several emunctories and pores ; and that Phlebotomy did particularly incline to sweat , promote urine , (and sometimes instantly allay its sharpness) and make the body soluble , so that upon Phlebotomy there needs no antecedent Glycer :

*Volles. method. medend.
I. 4. c. 2.
Gregor. Horstius Instit. Med.
disp. 18. Coron. devenæ
fect. qu. xi.*

Any man that is conver-
sant in Physick knows
that such purges as operate
on the blood, promote urine,
and sweat, and transpiration;
even during the working;
for those very qualmes the
Patients feel are an effect
of Diaphoresis. Lipothymia
juvet: quia sudorem &
validam perspirationem fa-
cit. Sandor. Med. Stat.
sccl. i. Aph. 98.

Neither is it convenient in a great *cachexy*,
my to purge before bleeding; not so much for
fear of irritating the Humours, but that the
purge operating so as to attenuate and alter
the whole *mass of blood*, and promote se-
condarily all *natural evacuations*; without
preceding Phlebotomy it is scarce safe (not
secure) to purge, except in bodies the *laxi-
ty* of whose *texture* is easily restored, or
with gentle *Medicaments*: for the *Humours*
being powerfully wrought upon by the
strong purges, and inclined to be expurged
by their *several emunctories*, and those being
either *defective*, or the *veins* and *arteries*
too *full* to admit a greater *rarefaction* in
the *mass of blood* (which is requisite to

their separation and transpiration) hereupon there happens a dangerous *Orgasmus* or *turgency of humours* in the sick: which *Plebotomy* doth prevent. And 'tis I conceive in reference to *this alteration of texture*

that Hippocrates saith, Τὰ ἄρματα χρῆν, διότι τοις βιβλίοις ταῦτα
§ 2. aphor. x. p. 109, εὐεργενεῖ. I observed a great congruity betwixt
the Static observations and those of the Methodists;
and that Sandorius hath a multitude of Aphorismes
Sandor fecht., which agree with them: viz. That such bodies as
aphor. ro 4. transpire well in the hottest weather, they are lighter, and
Idibid. fecht. 1. not troubled with any vexatious heat. That nothing pre-
aphor. 28. vents
§ 1. aphr. 1:0.

vents putrefaction like to a large transpiration. In fine, I did observe that it was the general sense of Physicians, that Phlebotomy did draw the Humours from the Centre to the Circumference, and I had taken notice of it alwayes in my self; even in the Colick bilious, when I was tired out with pains, vomiting and want of sleep (when I took no Laudanum) and reduced to extream debility and emaciation, I determined in that forlorn case (having used all other means for several weeks) to bleed so long (yet partitely) as that I might be freed from a most troublesome pulsation of the descending Artery, below the reins: I bled eight ounces at first, and found a vexious heat in the whole habit of my body: I repeated the Phlebotomy in the afternoon, and was very hot all night: thus I continued to bleed twice each day for three dayes, loosing above sixty ounces, and then fell into sweats, was eased totally in my back, and afterwards recovered with a more facile Paresis in my Armes (and no contracture) then that disease commonly terminates in there. These considerations made me think that there was some more important effect in Phlebotomy than the evacuation, derivation and revulsion of the Blood and other Humours; and that it must consist in promoting that Statical transpiration: and I conceived that the Blood was in perpetual motion, and though Motion doth hinder Fermentation, yet I had observed that in Pipes at Owburne Abby, where the drink runs from the Brew-house to the Cellar (to be tunned up) the Fermentation continues so (especially in the stronger drink) that the Pipes frequently break therewith, as rapid as the motion is: I did not imagine that the nature of the Blood was such as to be exalted into one Uniform liquor resembling Wine, (for such a liquor would not be liable to such sudden changes and alterations from one extream to another) but that it was a miscellany of heterogenous liquors in a perpetual digestive

I did herein
follow Galen,
and those
that represent
Phlebotomy
as a great
AND=
Dyne:
and particu-
larly Citefius
concerning
the Colick in
Poitiers.

five fermentation and depuration by halituous particles arising from it (as in more gross by the emunctories) which if the conformation of the pores and passages be such as to give it due vent, all continues well: if they be obstructed or vitiated then several maladies ensue, except timely prevention be used: I conceived that in Phlebotomy as the Blood issueth from the vein, so (as in the pouring out of other liquors) the Air comes in by the orifice, and mingling with the Blood produceth *as great, or greater effects* than in the Lungs when it mixeth there with the Blood, invigorating it in an *unexpressible way*, whence we commonly see that the pulse grows stronger and stronger during the bleeding: and upon this account I think it may happen that bleeding with Leeches though equal quantity be taken away, oftentimes does harm, never alleviates so much as Phlebotomy: and such persons as by reason of their tender habit of body cannot bear a violent transpiration, swoon not by bleeding in water, (though otherwise they do) by reason that the great effects of the Air upon the Blood are impeded by the ambient water: the like happens in Scarification with Cupping-glasses; and in bleeding with Leeches. I did suppose that oftentimes in a Plethora quoad vires, transpiration being hindered by the change of the texture of the Body, the not-exhaling particles remix with the Blood, and there also happens a subsidence of the vessels, and change of the porosities, so that the Fermentation is not only clogged with morbose particles of several sorts, but so

Kergerus de
ferment sect. 1
c. 9. & sect. 2.
c. 8.

Willif. de fer-
ment. c. 6,

hindered by the subsidence or compression of the vessels and alteration of the pores, as not to be able to ferment (for freedom of room is necessary to Fermentation) nor transpire, nor continue its due course, nor by reason of the charge of porosities confer aliment aright, so that a Plethora ariseth hereupon. But as soon as the vein is breathed, and the Blood (as in your common water-pipes when a Pipe is cut) acquires a more free

free passage that way, it presently becomes more rapid, and its motion also is accelerated by the fuliginous exhalations hastening to the vent, together with the natural Fermentation resuscitated, and so the whole body by a natural coherence and dependance, is not only evacuated, but altered in its minute texture, and conformati-

It is most evident that the Blood in the Veins and Arteries is conveyed as it were in conduit-pipes, the Heart being the great Elastic Engine which drives it, being fed by the *vena Cava*, and disburthening it self by the *Aorta*: though even the motion of the Heart depend upon a Superior influence by its Nerves, which wherein it consists and how derived from the Brain and Soul, is a thing to us incomprehensible. I do suppose that the Circulation is continued and carried on principally by Anastomoses betwixt the Capillary veins and Arteries, many whereof having been discovered by *Spigelius*, *Veslingius* and others, the rest may well be supposed: and perhaps in the coats of the Veins and Arteries there may be a certain texture requisite whereby the transpiration is managed in order to the safe con-
tinuance of the digestive fermentation in the Blood, and the nutrition of the body. The impulse of the Heart, together with the pulsation, is sufficient to convey the blood to the lesser capillary Arteries, and there though the pulse be lost (which yet a little inflammation in the extremities of the body will make sensible, and in some Ladies, as also in Children, the least preternatural heat) yet it is impelled by the subsequent blood still into the veins, and having acquired by the common miscle in the Heart and the digestive fermentation (which naturally ariseth in such heterogeneous liquors) an inclination to expand it self, the compression in the Capillary vessels adds to its celerity of motion when the larger veins give liberty for it: the Aery corpuscles of several kinds (which are easie to be

This is agreeable to the Hypothesis of the Mercurialists,

be discovered upon burning) by their expansion, and contraction adding much thereunto: Thus in Water-engines the narrowness of the Pipes do add to the impetus with which the Water issues forth: And I do conceive (by the Phenomena which daily appears in practise) that the Animal heat in the Blood actuating that heterogeneous miscelle, and according to the diversity of its parts producing therein (with the help of its fermentation) a rarefaction of what is airy, and, according to the room there is, a liberty or inclination to expand and evaporate themselves, this is the principal cause of the continuance of the motion of the blood in the veins, and of its saliency upon Phlebotomy. Thus upon Scarification there is no salience or spouting out of the blood, there being no room for such an expansion, or for the Airy halituous parts (in which there is as great a difference as in those exhaling from the terraqueous Globe) to rush forward out of the continued Arteries and together with themselves to protrude the blood: Upon this account the Methodists and old Physicians (as also the Egyptians) where the tender bodies and constitutions of Children and Women or Men admit not of, or requireth that great relaxation of the pores and texture of the body, which a more robust and firm habit (wherein as the natural resistance in health is greater, so the recess from it in a bad estate is much greater) would be cured by, they use these scarifications, and prefer them (most judiciously) to Phlebotomy.

This constitution of the Body doth evince the great utility of Phlebotomy, and best (as I suppose) explicates the effects thereof which we daily experiment. From hence not only is manifest how the Body is evacuated in a Plethora, but in case of Revulsion, and Derivation. It is manifest in Aqueducts and Siphons, that the liquors (though much differing in nature from the Blood, nor so inclined to evaporate) does accelerate

accelerate their motion; and issue out so rapidly upon an incision or fracture in one of the Pipes, that a lesser in such a case will deplete the greater, notwithstanding its free passage in its own entire Canale. Thus the most learned and considerate Physician, Sir George Ent, having observed first thus much. " *Videmus aquam per siphones delatam, si vel minimarimula hiscat, foras cum impetu prorumpere.* And, " *Sanguis per aortam in gressus, fluit porro quocunque permittitur, peraque sursum ac deorsum, quia motus continuus est: quemadmodum in canalibus aquam deferentibus contingit, in quibus quocunque feruntur, aqua continuo pergit moveri. Quare nugantur strenue, qui protrusionem hujusmodi non nisi in recta linea, fieri posse arbitrantur.*

After this He explains the doctrine of Revulsion in this manner. " *Quæ postea de revulsionibus dicuntur, nullum nobis facessunt negotium. Tantundem enim sanguinis a pedibus ascendit per venas, quantum ad eosdam delabitur per Arterias. Facto itaque vulnere in pectore, aut capite, revulso instituitur (si modo tam longinqua instituenda sit) in crure. Quia sanguis alias quoquoeverum ruens, facto nunc in pede egressu, copiosius per descendenteram rancum, procul a vulnere, delabitur. Non enim arbitramur, sanguinem aequa cele riter sua sponte per arteriam aut venam fluere, atque is se a earum aliquo effluit. Nec sanguis ad lœsum percutitus ant caput, per venam cavam impetu afflit, quia fluxus ille aperta inferius vena intercipitur.*

I do acknowledge that the reading of these passages did first create in me the thoughts I now impart unto you : And hereby it is evident how the Ancients (with their large Phlebotomies) might derive even the morbidick matter, or revell it, though impacted. Our minute Phlebotomies do seldom produce such an effect ; for since it is not otherwise done, but by a successive depletion out of the Arteries , it would seem necessary to extract three or four pounds of Blood to effect such a matter :

Apolog. pro circul. sangu. sect. 13. p 62.

Id. ibid. p. 107, 108.

Id. ibid. p. 179, 180.

Neither indeed is it *necessary*: albeit that I believe the most *speedy cures* (but great judgment is requisite in such operations) were atchieved thereby: for though we do not retract the *Humour*, or *Blood* unto the place where we *Phl. botomise*, we do revell it from the place whither it was flowing: and the course of the *Blood* and *Humours* being diverted, the *Arteries* leading to the part affected or depleted, and the *Flux of Humors* (which was by them) is abated, their *tension* there (which appears by their *pulsation* there where they did not beat before) is relaxed, and so becomes less opportune to extravasate either the *Blood* or other *Humours*: whereupon Nature it self alone, or with a little help of the Physician, doth *digest* and *dissipate* the impacted matter. Whereupon if we add the motion of *restitution* in the parts affected, which is hereby facilitated, the great change in the *digestive fermentation of the blood* (which is manifest by the melioration of the *Blood* which is seen in repeated *Plebotomies*) and the *relaxation* of the *whole body* in order to the *transpiration* and other *deputation* of the *Blood* by its several *Glandules*, the *Kidneys*, *Liver*, *Guts*, the reason of those prodigious benefits which Patients have had of old, and now under our practice, is manifest; nor do we want a justification for reiterating *Plebotomy*, or exercising it in different veins, and divers manners.

I designed long ago to set aside some spare hours to a further study of this *Hypothesis*, and in order thereto to acquaint my self with the *Hydraulic Arts*; as also to examine the truth and solidity of the *Static Experiments*: (out of which this texture of the *Body*, the *digestive motion* of the *Blood*, its *change*, and *restitution*, is demonstrable) and to enlarge my prospect by a comparison of the several *Methods* and *Medicaments* used

The alteration of the *texture of the body* is no less evident, out of *Dietetical observations*: of which I have made many, and did intend once to prosecute far these inquiries; as also the discovery thereof in dead bodies.

used by sundry *Physicians* (both *Methodists* and others) in order to the cure of diseases, and preservation of health: But I must tell you that the malice of my enemies renders my LIFE and Condition so ill-assured; And the apprehensions I have least the Projects of *Campanella* are powerfully and subtly driven on in this Age (I am the more confirm'd in my suspicions; in that my *Adversaries* are most intent to ruine me, but not to remove those Umbrages) together with the imminent subversion of the Faculty of Physick by the toleration of Divines to practise (which is contrary to the Ecclesiastical Canons, and makes them irregular) the great incouragement of *Quack-salvers*, and *Baconical Physicians*: These reflexions have so disconraaged me, that I have no mind to pursue those studies, or to be much concerned for the present or succeeding generation: But could I see Physick regain its lustre, the Faculty encouraged by such Acts of Parliament, as our Predecessors, and Forreign Potentates have made, and your Colledge advanced as the Proper and Supreme judicature in reference to Medicine, I would willingly employ all my leisure in the improving of the present state of Medicine, without subverting Learning, or disparaging the Ancients, without the knowledge of whose writings 'tis impossible for any man to be excellent in Physick. Poets and Comical Wits owe more to their Birth, and need less of industry, study and judgment, than Physicians: The knotty Staffe, the Serpent, the Pine-apple, the Dog, the Dragon, the Cock, with which the pourtraiture of *Aesculapius* was beautified, were not symbols and Hieroglyphics of a facile study: The first Principle that we are taught is, 'Οσὶ Καρκίνῳ δὲ τέχνη μάχεται, δὲ καὶ διὰ δόγματα, οὐδὲ μη διδοκαλία, τέπει εὐρύεσσι, παιδομαδίαις, ειλατούντιναις, χειρούντιναις. Hippocr. lege. c. 2.

I intend some time this Summer to write a discourse concerning the Unlawfulness of Divines to practise Physick

Vide Meibum in sur. Hippocrat. c. 5.
Io. Laurent. de Aesculapio.

*tempt of Antiquity, and a pretence to novel Experiments
(which are mere excuses for Ignorance, and Indiscretion)
are sufficient Qualifications,*

Notwithstanding the *Melancholy* and *pensiveness* into which the *present posture of Learning here in England* always puts me into, when I reflect thereon : I will constrain my self to proceed further, and examine the cases of *Phlebotomy* in a *Pleurisy*, the *Small-pox*, and *Scurvy* : concerning all which *diseases* as I shall debate what an *Intelligent Practitioner* may do, nay is oftentimes obliged to do in conscience, and out of discharge of *duty* to his *Patient*, so I will not justify any *Action* of those persons who *understand nothing*, nor can *distinguish circumstances* in particular cases : A thousand things are to be considered by him that would practise *Physick* exactly, the *present disease*, the *past condition of the Patient* in reference to *himself, his parens, his dyet, preceding distempers, the latter, the more remote, the conjunct causes; what binders, what promotes, what effects the cure: What will, what may happen in the disease, what will or may ensue upon recovery*: In all these cases, since he hath not a *sensible and easie knowledge* thereof, but must proceed upon *Conjecture, you understand well How great a comprehension of affairs, and how much in each case, he must inquire into, who will discharge well the duty of a Physician.* It was prudently said of the incomparable *Aristotle* (the meanest of whose Works deserves to be read above all that the *Novel Experimentators* have published ; if it were but for the *wise Apothegmes* therein : for *Civil Society* is the grand work of this Life ; and that is more *useful*, which qualifieth us *thereunto*, then what makes us admirable *Mouse-trap-makers !*) “ *Physicians, saith he, do not cure man in general, except it be by accident, but Cullias, or Socrates, or some other individual person. Hence even*

a man that is a speculative Artist (how much more
 those that are neither speculative , nor Empirics ?)
 may be deceived in the application of general rules to
 singular cases , and so may mistake : He tells us that
 it is not for the most dexterous railers , or witty Sophi- Ethicor. l.x.
 sters , to judge of State matters , nor yet for any man
 to direct therein , who hath not served an Apprentice- c. 9.
 ship in the Ministry of State : for neither in Phy-
 sick , doth the knowledge of a common Praxis accom-
 plish a man thereunto : ταῦτα δὲ τοῖς μὲν ἐμπέρεοις ὀφίληται οὐχὶ δὲ ταῦ-
 ται δοκεῖ τοῖς δὲ ἀνεπισκόπουσιν , ἀλλα. What is it to the ιάσοντι δὲ στοιχεῖον purpose , if they learn a multitude of Knick-knacks , τοὺς ἄρετας and have an infinite of Conundrums in their Heads , if σορτεῖν , οὐ they know not what appertains to Pratice ? These ἀντραὶ , οὐ γέ-
 narrow-sighted Verulamians may recommend them- γραπτοὶ πε-
 selves by success in a few ; the Grave may conceal , or a οἱ φύσιοι ,
 strong Nature amend their defaults ; but they are οἵτε ποτε οὐδὲν τῆς ἀντρικῆς
 nevertheless ignorant . In a calm many can steer a τέχνη προ-
 ship , whose imbecility of judgment sinks it in a storm . σπίκειν , οὐ
 Επεὶ οἱ πολλοὶ γε οἵτε ἀντραὶ ταῦτα μοι δοκένεστι τοῖς κακοῖσι κυβερνήταις τῆγερακῆ.
 πάχειν οὐ γὰρ ἔκπινος ὅταν εἰς γαλόνην κυβερνᾷτε ἀμαζηλωτοῖς , οὐ κατα . Hippocr. de
 φαρκτέσσιν ὅταν δὲ αὐτὸς καλάχη ἀνεμός τε μέγας οὐ χειμῶν , φανερῶς veteri medicis c. 17.
 οὐδὲ πᾶσιν ανθρώποισι διὸ ἀγνωστὸν οὐ ἀμαρτίνειν δῆλοι εἰσιν ἀπω-
 λέσαντες τὴν ταῦτα δὲ οὐ οἱ κακοὶ τε οὐ πλεῖστοι ἀντροὶ , ὅταν μέρη θεον
 γατεύσωσιν ἀνθρώπους μηδὲν δειπνόν ἔχοντας , οὐ οὐδὲν τις οὐ τὰ μέγιστα
 ἀμαρτάνων οὐδὲν δειπνόν ἔργασται πολλὰ δὲ τὰ τοι αὐτα νοσήματα οὐ
 πολὺ πλέον οὐδὲ ποιοῖς συμβαίνει . Έν μὲν δὲ τοῖσι τοιέστοισιν
 ἀμαρτάνοντες οὐ καταφανεῖς εἰσι τοῖσιν ιδιώτησιν ὀλότεραι δὲ πύχασσα
 μερχόλεψε τε οὐ ιχυρῶν οὐ ἐπισφαλῶν νοσήματι , τότε σφεων τὰ ἀμαρτή-
 ματα οὐ οὐ τέχνη πᾶσι καταφανίσει .

I have already spoken concerning Phlebotomy in the
 Plague : In a Pleurisie 'tis no less evident that Phy-
 sicians are divided in their judgments . To begin
 with .

with the true state of the Question: This is more than this Baconian Philosopher did ever think upon; for he without any distinction derives the usefulness of Phlebotomy in a Pleurisie. " If thou beeſt unsatisfied whether opening a vein as it is indicated from Evacuation, or Revulſion, be a competent ſufficient Remedy for the cure of a Pleurisie, or any high Feaver; thou ſhalt find in this ſhort Track a Resolution in a Negative ſeſe, grounded on Reason, Authority, but especially that which is the ſum of all, Matter of Fact delivered according to what Experiments are past, offered to be made good for the future.— Thus he beſpeaks his Reader in the Preface: and a little after he affiſſes him, that " He is able to resolve any one that is capable, that the moſt Pheþorick body taken with a Feaver, or any one Cachochymic affiſited with a Pleurisie may be cured without the Lancet more ſpeedily and ſafely than by uſing the ſame.— Though I cannot imagine— G. T. to be good at resolving Controversies in Physick, yet ſuch is his impudence, that I will not refuſe him the Title of Doctor Resolutus: I have read over his Book with ſome attention, but I could not find any Pretensions in it to Authority, nor any Experimental Histories related: All amounts to this— G. Thomson ſaith, " It is not good to bleed in a Pleurisie. And— G. Thomson avows that " Tis verified by obſervation, they who recover by this Apoſtpatrick means do for the moſt part find a great debility ſucceeding, are incident to Empyemas, Conſumptiōn, and prove to relapse into the like condition again. On the other ſide, thoſe who riſe from their ſick Beds, reſtored by vertue of adequate Remedies, are ſecured from the forementioned diſcommodities. Assuredly of all thoſe Pleuriticks, I have handled above these half-score years, I have not known one after their evaſion procured by a legitimate form of Physick, either live crasie, fall into ſecondary calamities, or recidivate

divate into a Languour of the like Idea. —— This is that irrefragable Argument drawn from past Experiments, which is the Sum of all Proofs, and must satisfy all that are capable : which it is possible it may do, if there be persons in the World that are capable of being resolved hereby : But impossible Suppositions are equipollent to Negations : Assuredly either this Age affords no such Men, or they are a Company of Fools : Who else will give credit to the bare assertions of —— G. T? He should have done like his Brother Odowde, printed an account of Cures, though they had been all false and fictitious : but as the case is, he neither cites so much as Van Helmont, and the Peasant that cured Pleurisies with stoned-horse-dung ; but is himself Author and Witness : Thus he bristles most Porcupine like.

Se jaculo, sese pharetra, sese usitetur arcu.

This is all I reply to his Authority, and Experiments : His pretences to Reason are no less gain. He sayes, That when we bleed any Pleuritick, there is no p. 116. streight immediate Revulsion intended from the part affected to the oxifice — — which is a most TRUE, and Bacon-like Aphorisme ! for we never thought that the Revulsion could be streight, whereas the line in which 'tis made is crooked. If we Phlebotomise in the Arm, (whether it be on the same side, or on the contrary) or in the foot, none was ever so besotted as to avow the Revulsion to be streight, though he held not the Circulation of the Blood : But such as hold that the Revulsion is made thus, in that the Veins draw from the Arteries, and so as in Siphons, divert the stream, they cannot hold any thing like it : nor that the Blood impacted or flowing was immediately revelled, and drawn back : But I am apt to think that some upon large and repeated Phlebotomies may have

have drawn some of the *pyrulent* and degenerate blood out of the veins of the *Arm*; in which there is no more of *impossibility*, than that it should be carried by the *emulgent Arteries* into the *Kidneys*, and discharged by *urine*: which last is avowed to have been done. I do not know that such *large Phlebotomies* in a *Pleurise* are practised by the *English Physicians*; though I think there is not so much of *Reason*, as *vulgar prejudice* to oppose the *thing*, when the *Doctor* is an *understanding Man*. For why may not we in *England* bear that which they do in *Holland*? there *Heurnius* took away above *four pounds of blood* from one *Plethorical Pleuritic* at one time, in a *dangerous Pleurise*, and recovered him when all others gave him up for dead. I believe there may be *some amongst us* that repeat *Phlebotomy* too often; but I am confident the *generality erre* in taking away too little at *one time*, in the beginning of *Pleurises* and *Feavers*.

I. Heurnius apud Schenck. lib. 2. de pleurit.
Prosper Alpin. Medic. meth. l. 7. c.xi.

p. 125.
I would willingly know of this *Helmontian*, whether it be a *Rhizotomous cure*, when Nature doth put a period to a disease, by an *eruption of blood at the nose*? Here is no *dulcification* of the *acid Latex*; no *rectification* of the *stomach*; and no other mortification of the *malignity*.

His next Argument is, that the Cure by *Phlebotomy* is accidental only and uncertain: sometimes in the beginning they do thereby suppress the disease, and as it were crush it, but it is a contingent, not at all *Rhizotomous Cure*, which ought to be performed by those things which are *Purgative*, *dulcifying the acid Latex*, carrying it off through all its *emunctories*, *rectifying the stomach*, and *mortifying the malignity*.—That all *Pleuritics* shall be cured by *Phlebotomy*, is a thing

no wise man will undertake for: As little will any man promise to cure a *Pleurise* by sole *Phlebotomy*, without giving the Patient any *Expectorating*, or *Sudorific Medicaments*, or other *Potions*; besides the Powders of *Pikes-jaws*, *Boares-teeth*, *Crabs-eyes*, &c. which correct the *acidity* of the *Latex*; if there be any such thing.

But

But to shew the folly and impertinence of this—
 G. T. There are several sorts of *Pleurises*, in many whereof no Galenical Practitioner is obliged to *Phlebotomy* at all; though in some such cases it be left to their discretion either to use it, or omit it; as in *Bastard Pleurises*. Of those which have the Character of true *Pleurises*, some are occasioned by the *Wormes*: in which—G. T. cannot imagine that any man would rely on *Phlebotomy*. There are also Pestilential *Pleurises*, wherein the effects of *Phlebotomy* are as uncertain as in the Pest; it self: *Gesner* (in his *Epistles* somewhere) speaks of such a one, in which all died that were bled: So doth *Bartoletus*, and *Wierus*. There was also an Epidemical Disease in *Friuli*, which *Vincentius Baronius* first named a *Pleuripneumony*, in which the *Pleura* and *Lungs* were both affected (where the seat of a *Pleurise* is, is doubtful amongst Physicians) but yet so, that though they had all the signs of a common *Pleurise* at the beginning, yet did they never come to *suppuration*, but were cured by *Phlebotomy*, immediately upon the administration whereof they were relieved, and with the help of accessional Medicaments expectorated *bilious* and *pituitous* spittle, and so recovered. As to those which are confessed to be *Pleurises*, it is to be observed, that neither can all persons, nor all places bear *Phlebotomy* therein, and in such cases no wise Physician will administer it: the qualities of the Climate, and individual constitutions or debilities, are circumstances he will always regard. It is granted that some *Pleurises* are so mild, and attended with such favourable symptoms, of so good a prognostick, that they do not need *Phlebotomy*: “ In *Halleri apud Gabelchenius* curta. centur. 92 in Scholio 92 in Scholio
 ‘ moderata pleuritide, in qua videlicet parum urgent re- jacobum in
 ‘ spiratio, tussis, dolor, febris, Phlebotomia inutilis est, feb. 1. feb. 18.
 ‘ aut certe non necessaria. Aliis enim levioribus auxi- vide etiam
 ‘ lis curari potest, quonodo in Galeno procuratus, qui hoc in Coer.
 ‘ in §. 26.

Galen. com. c in levī pleuritide sanguinem expuebas & plurimā visi-
 ment. in l. 6. c sunt a nobis & aliis medicis cista ejusmodi auxilium
 Epidem. But Riolanaw convaluisse. But although I am ready to grant that
 doth blame Galen as vio-
 lating his own
 Rules hereby.
 Decirculat.
 Sang. c. xx.
 Hippocrat. l. 2.
 Aphor. 19.
 Holler. de
 morb. intern.
 l. 1. c. 26. De
 pleuritide.
 Zocchias Q. Medico-legal.
 l. 9. consil. 40.
 sect. 4.

in such cases Phlebotomy may be omitted, and yet
 the Patient escape: yet I can hardly commend the
 prudence of such Physicians as do omit it: For, since a
 Pleuritis is alwayes an acute Disease, (in such
 our Prognosticks are not certain) and the parts affect-
 ed such as are of greatest importance, and equal tender-
 ness; since the disease is frequently so fallacious,
 that amidst the most hopeful signes, and when we
 may justly expect its happy termination, even then most
 direful symptomes break out, and render the case de-
 plorable. [Nam aliquando ubi ante signa omnia sa-
 lutem praenuntiaverint, crisi tempore, qua fere sit ad
 septimum, aut alium diem criticum, vehementer Pleuritis
 exacerbatur, symptomata omnia increscent, tum nihil
 movendum est: sed omnia naturae committenda sunt.] Since the Patients condition is such, I do not see how
 any Physician can answer it well to his Conscience, or
 the Rules of Art (I am sure 'tis criminal in Italy) if
 he forbear to take some Blood (albeit not so much as
 otherwise he would) away from him: the damage
 is inconsiderable, but the hazard otherwise so great, that
 no prudence can well condemn it.

Alexius Pede-
 mont. de sect.
 l. 1. p. 51, 49.
 Riv. cent. 4.
 obl. 88.
 Quercetan.
 Rediuimus
 l. 3. p. 103.

I do further confess that many have been recovered
 out of very dangerous Pleuritis without Phlebotomy:
 as he in *Alexius Pedemontius* with the peitoral drink,
 and perhaps that other by the eating of an Apple roast-
 ed with Olibanum in it: whereof *Quercetan* makes
 mention; who also speaks of another Powder given in
 the water of *Corn-poppies*, with which he cured many
 Pleuritics, administering nothing else inwardly, or out-
 wardly. There is a Case in *Valleriola* (which yet he
 rather accounts miraculow, than to be presumed upon
 again) of a young Woman eight months gone with
 child.

child, that fell into a Pleurisie on the left side, with a violent Feaver, a troublesome Cough, and difficulty of breathing.

Uno die miraculo curata, non misso san-
guine, non cucurbitulis adhibitis, ullave purgatione, duo-
bus tantum illi prescripto Clysteribus emollientibus,
sputo eodem die cruento plurimo & cum facilitate ema-
nante: sudore interim copioso sub noctem secuso, po-
stride sana evasi, absque dolore, absque febre (qua
*tamen vehementissima in ea erat) & absque ullis
symptomatis reliquis, a morbo integrè curata reman-
*sat.**

Fr. Vallerio
obit. Medic.
1. 4. obit. 1.

Neither will I deny that grievous Pleurisies have been cured by Sudorifics: this Method was practised by Lazarus Meyssonierius, and that for this reason: He sayes the common People about Lyons in France call a Pleurisie *Lou-san-prei*, or congealed Blood: and that Platerus (and others) upon dissection have found no other default in the Pleura, than that there hath been a *livid spot* thereon, which he looks upon as a *concretion of salino-serous Blood*; considering this, and that the Critical termination of Pleurisies is by Sweat, he perfected his Cures by discusing the coagulated blood by Sweat, and that sometimes so as not to use the other subsidiary Remedies of Phlebotomy, or Lenitives.

Iwo non adhibitis Medicorum ignorantia, vel adstan-
tium negligentia convenientibus remediis aliis, in vera
Pleuritide sudorem excitavimus diebus deeretoris 7.

& i. 4. quod nobis feliciter cessit, praesertim in adoles-
 centia pradidite, qui tempore lata phlebotomia omissa ad
 mortem properabunt, ille squidem septima morbi propi-
 nato a nobis vocatis potu hedrotico intra biduum sa-
 nus in publicum prodit: vocatur ille Selle, & Bur-
 gundia apud Delphinate taurice vivit. I must take
 notice here that our Author dislikes not, but complains
 of the omission of mature Phlebotomy; notwithstanding
 that he compleated his Cures by Sweating: Neither is

Lazarus Me-
sonnierius
doctr. nov.
febr. Exerc. 3.
p. 41, 42.
αὐτὸς διεργάτης
δυτίαν, οὐ
πληγὴ μάτιο
ἰεστερναλικός.
λοντζιανός.
Hippocrat. de
victu in acut.
l. 1. sect. 3.

this way of his condemned by *Vallesius*, whose words
Volles. in Hippo-
poesi. de vi-
et in morb.
acut. 4. p. 197.

are these: " *Hac [apud Hippocratem, ibi] ratio*
curandi pleuriticos, potionibus vehementer discutienti-
bus, non admodum in usu est nostris Medicis, quippe qui
post missione sanguinis, & inundiones & moventia
sputa, & que ad has intentiones pertinent, nisi excreent
egroti, differant servari posse, ad nullam aliam transe-
untes curationem. Scio tamen quandam, cui homo qui-
dam vulgaris nescio quid hujusmodi in potu dedit, co-
pissimo sudore excitato, servatum esse brevi, & tho-
racem laxatum, & sputum redditum facile, cum septi-
ma. jam dies esset, & nihil capisset excreare, & pene
jam stranguli pre respirandi difficultate periclitare-
tur. Idiotæ etiam qui Emperice curationem quorun-
dam aggrediuntur, exudatoriis curant pleuritides, saepe
cum optimo successu: atqui profecto ratione hoc non
*caret. Of the like Cures, without *Phlebotomy*, or*
other Medicaments besides what expectorate, (and
*perhaps a *pectorall liniment*, or *fomentation*) you may*
*see in the excellent *Rulandus* cent. 1. cur. 59, 75:*
*cent. 6. cur. 76. And *Gabelchoverus* cent. 3.*
cur. 49.

Neither is it to be denied, but that *Rulandus* fre-
quently cured *Pleurises* (even the most desperate) by
vomits of *Aqua Benedicta*, or the *Emetic infusion*, and
pectorall drinks, without ever proceeding to *Pectoral*
liniments, or *Phlebotomy*, except there did appear fur-
ther occasion thereof after the vomit. So Cent. 1. cur.
41, 81. Cent. 4. cur. 26. Cent. 6. cur. 13. Cent. 7. cur. 42.
But when there seemed occasion for *Phlebotomy*, after
the aforesaid vomit, then he useth it. Cent. 1. cur. 35,
36, 57, 62, 65, 68. Cent. 4. cur. 16. Cent. 5. cur. 53, 56, 57.

Hartman.
praxis chym.
de pleurit.
p. 1 33. edit.
Ganevens.

The like course was practised by *Hartman*, who begins
with the same vomit; and if occasion require de-
livers to *Phlebotomy*, and *Diaphoretick Liniments*, and
expectorating Medicaments. In *Plethoraick bodies*, doth

dóth Hartman bleed before he vomit his Patients. Sometimes Rulandas dóth vomit them with his *Aqua benedicta*, bleed, and sweat them for several dayes till they be well ; using other pectoral Medicaments : as Cent. 6. cur. 18. Sometimes he sweats and vomits them at once with the powder of *Asarabacca-roots*, and a Decoction or Water of *Carduus benedictus*, and doth not Phlebotomise : as Cent. 5. cur. 6. Concerning the use of his *Aqua benedicta*, or the *Emetick infusion* in Pleurises he avows it to be *Experimentum optimum contra hunc morbum, et omnium aliorum Medicamentorum tertium*. Cent. 1. cur. 56. I must profess I have generally guided my practise in the Country by the Presidents of Rulandus, proceeding to Phlebotomy after vomiting, if the pain were not mitigated and expectoration facile ; but if it were, I acquiesced in topicks, and expectoration, and sweating. Where the Patient could, or would not vomit, I followed the Presidents of the said Rulandus, for to purge with the decoction of *senna*, *Agaric* and some pectoral additions ; and then to expelorate, and sweat the sick, not bleeding except occasion required it, and then either premised, or used it subsequently, as I saw cause : thus Rulandus Cent. 5. cur. 26, 54. for which procedure you may see his Reasons added Cent. 7. cur. 20. And the practise of Gabelchovensis Cent. 1. cur. 11. Cent. 2. cur. 23. But Gabelchovensis in his *Scholium* here doth not allow of so strong purges as Rulandus sometimes makes use of, and defends by the Authority of Hippocrates, who did use *Pepium* and *Hellebore* in such Pleurises, as the pain descended to the *Hypochondria*, and did not ascend to the *Ostioplate* : But Rulandus doth not regard that distinction, nor Gabelchovensis, nor many others. The case of the Wife of *Ludovicus Paracelsus* doth deserve to be set down here.

I

Ludovicus

Ludovicus Paniza, Mantuanus, in Apologia Commentarii de parco evacuatione in gravium morbo-rum principis a materia multa & mala & non furiosa pedentim facienda. cap. 6. fol. 59. col. I.

" Præterea quid sensui respondebimus ? quod anno
 " 1554. mea conjugi pleuritide correpta, ea sumum annum
 " 72. agente, imbecilis naturæ, melancholica temperatu-
 " ræ, sanguine & carne exuta, dolore ad spatulam as-
 " cendente. Eam secundo mobi die, non cum Phlebotomia,
 " sed cum Pharmaco purgavimus, quod summa cum tran-
 " quillitate subduxit, deinde subtili cum diæta, & co-
 " quentibus, & spiritu facilitantibus (ut par est in hu-
 " jusmodi morbis) usque ad septimam sic procedentes,
 " qua transacta, de Phlebotomia memores, sanguinis &
 " carnis privatione, etate, & agra relutante, eam di-
 " missimus, atque ad id felicissimum purgatorium Medi-
 " camentum rufus devenimus, a quo post xiv. diem sal-
 " vata fuit,

It is further to be taken notice of, that sometimes Pleurisies have been cured without Phlebotomy, purging, or vomiting, or bleeding ; by Liniments and expellorating Medicaments : as in Gabelchoverus Cent. 1. cur. 3. Cent. 2. cur. 93, 98, 99.

But to oppose — G. T. directly : sometimes Pleurisies have been cured by Phlebotomy alone and protra-
 " ral Medicaments : as in Rutlandus Cent. 7. cur. 13, 14.
 " Cent. 10. cur. 49. Gabelchoverus Cent. 3. cur. 7.
 Sometimes by Phlebotomy, and sweating : as in Ril-
 " landus Cent. 6. cur. 60.

I have hitherto made use of these Authors, because they were most eminent Practitioners, and particularly famed for their Cures in that disease: and it is manifest hereby, that Physicians are not bound up to one method therein. Neither indeed can they be in any disease: for in some years, and in some ages, and persons, and in some circumstances, they are forced to recede from their usual courses; and sometimes the mildness of a distemper is such, that it requires not all their address, those methods which are set down in our praxes.

I now come to give an account of the most common and received Method of curing Pleurisies amongst Physicians; and to shew with how much reason they practise Phlebotomy therein. There is not any disease whereof Hippocrates did take so particular care in relating its Diagnostics, Prognostics, and Cure, as a Pleurisie, as is evident by what he hath written in his Books *De viði in morbis acutis*; and *De morbis*, besides what he hath set down occasionally in his other Works: It is an Acute Fever, finishing its course in seven, nine, eleven, or fourteen dayes; though it hath happened (as in the case of *Anaxion*) that it extends its period to thirty four dayes. It is attended alwayes with troublesome, oftentimes with dangerous symptoms. A violent Cough, difficulty of breathing, prickling pains and Stitches in the sides: these are the Pathognomonical signs of this Fever. Though the part affected seem principally to be the Pleura or costall membrane, yet are the Lungs attacqued by this disease (and frequently it hath been found that the seat of the pleurisie is rather in them than in the Pleura; as the followers of Petronius do demonstrate) and their fabrick is so tender, that it is in great danger to be putrified or corroded in this distemper, by the sharpness or other evil qualities of the spontaneous matter.

Hippocrat.
aphor. 8. § 4.
cum notis
Velleſii.

Hippocrat.
Epidem. § 32.
l. 3. p. 309.
310, 311, 312.
cum nota
Velleſii.

Hippocr. Coac. *Matter.* Besides, it is a very fallacious disease, and frequently after hopes of a recovery by a benign *Anæsthesia*, after that the stitches have abated, oftentimes the disease becomes crude and exasperated again, to the detriment or death of the Patient: as appears by the case of *Anæsthesia* in Hippocrates; and that other related by *Franciscus Rubens*: as also by *Mercatus*. If it be not happily cured, the danger is no less than that it should change into a *Phrenitis*, or *Peripneumony*, or terminate in an *Apostemation of the Lungs*, or an *Empyema in the Thorax*. Where the disease is so full of dangerous as well as vexatious symptomes, it is not to be wondered that *Physicians* have diligently looked into the disease, and recommended unto our practise a great many things, which they who either perfunctorily look upon matters, or superciliously despise dangers, or out of ignorance cannot apprehend them, may contemn. That the *Blood* in that disease should acquire a congealing or coagulating quality seems unimaginable: both because that oftentimes the procatarrhic cause is sudden in its operation: as when a plethoric person any way doth over-beat himself, or drink cold drink, &c. and also that the congelation in the *Pleura* (when it is there) is no other than what is seen in the spots of the *Spotted Fever*, or *Plague*; which seem not to be congelations of the *BLOOD*: Besides, How comes it to pass that this aptitude to congeal, if it be in the whole mass of blood, doth not discover it self any where else but in the *Pleura*? And if such a *Diatbesis ad ascendum* in the blood produce a *Pleuritis*, How is it true that Hippocrates saith, *Acidum qui eructant, non sunt pleuritidi obnoxii?* Why also are *splenetic* persons (in whom we may best suppose such a *Diatbesis*) not inclined to *Pleurises*; except the *spurious* and *flatulent* ones? Is it not moreover known, that *Vinegar* dissolves congealed *Blood*, and is therefore given in *bruises*: As al-

so *Oxymel* and *Syrup of Vinegar* in *Pleurisies*? But 'tis evident that it is a *Feaver* accompanied with a *Catarrh* upon the *Thorax* and *Lungs*; and that it admits of a great diversification according as the *Galenical humours* do operate in it; and in the Cure a *different regard* is to be had to a *bilious* or *pituitous Pleurise*, from what there is in one that is *sanguine*: as any man knows that understands *Physick*, or hath so much as read *Salins Diversus* upon *Hippocrates de Morbis lib. 2.* Or *Forrestus's Observations*, lib. 16. * It wasthe advice of *Hippocrates* at first to try to *discuss it by fomentations*: if they succeeded not, then in case the *fistches* seemed to diffuse themselves *upwards* towards the *shoulders*, to *phlebotomise* the *Patient*, and let him to bleed largely until the *colour changed*, from *corrupt to red*, or from *pure and red to blackish*: But in case the pains descended below the *Diaphragme*, then to purge with *black Hellebore*, or *Peplium*. The reason upon which he seemed principally to go was, that a *Physician* *was to imitate the progress of Nature*, and to carry off the peccant humours by such wayes as he inclined them to go: which in one case appeared to have a tendency to the *Arm*, in the other to the *Bowels*. But *Galen* considering the uncertainty that is in the operation of purging Medicaments; as also the hazard of irritating inflammations thereby, and the diverting that *sputation* which is so requisite in that *disease*: and that since a *Loosenesse* was perillous therein, purging could not be *safe*: and I suppose that the sad case of *scomphus* may have discouraged him from it: who being purged in a *Pleurise*, became frantick, and died on the seventh day: the discourses upon which lamentable History, in *Vallesius* and *Van der Linden* do deserve to be pondered: The purge did not work *much*, yet killed him. Some other cases as sad as this are recorded: upon the account whereof the generality of *Physicians* have prudently been swayed from purging in

*Hippocrat. de
viectu in
morb. alcuet.
l.2. cum notis
Vallesii. p. 42.*

*Van der Linden
dicitur in
exequioribus
etiam empyre-
um. 16. 16.
Hippoc. aphor.*

*Valles. in Hip-
pocrat. Epid.
l.6. p. 456. &
Van der Linden
select. Medic.
c. XII.*

Hipper. Coac. a Pleurisie until the latter end: Because it is very convenient in a Pleurisie that the body be moderately soluble: they do give their Patients Glysters: and because the disease is a Catarrh accompanied with a Feaver, they conceive their main work to be this, to prevent the increase of the fluxion, by diverting the course of the Blood another way: and to evacuate by a concoction and expectoration the matter inflamed and impacted. To do this, they place the beginning and foundation of the Cure in Phlebotomy; yet do not we now insist upon their bleeding to a Lipothymy, or till the colour of the blood change, but rather chuse to proportion our Phlebotomies by other considerations; especially since it is visible in the case of great fluxes of Blood, that revulsion is best performed by partite, and after some intermission, repeated phlebotomies: and in order to the Anacatharsis or expurgation by spittle, we do give them all besetting means to expectorate concocted matter: and use anodyne unguents and fomentations in order thereunto. There was heretofore a great quarrel about bleeding in a Pleurisie, which arm it should be administered in, and in what vein: But those

Vesalius saith, that all the quarrels about the different Phlebotomies in a Pleurisie, were Riva de lana caprina. Vesal. exam. obs. Fallopii. p. 129. yet this is evident, that Nature delights to evacuate diseases of the Liver by an Hemorrhagy of the right nostril; of the Spleen, by the right. And that there is as it were a seam in the body, is apparent in the Pulse. So that 'tis wisdom for us to imagine, that 'tis not indifferent what side we bleed on.

and if the disease be great, by as great remedies; now their

their grand relaxatory is Phlebotomy: and after a vomit, they used it: yet had they this care, not to bleed too much, least the body being too much relaxed, should not be able to concoct the impacted matter: and the Galenists do give the like caution, that we have a care of hindering the suppuration by importune Phlebotomies. I find Hippocrates to have blooded Anaxion upon the eighth day: Forrestus gives us Instances of the like nature. That frequent Phlebotomies in the same Pleurisies have been practised very beneficially, is evident upon record: and in Holland I find Tulpus to accord with the French and Spaniards, and to allow, if the disease be violent, that the Pleuritic bleed three, nay five or eight times: and gives such Presidents for it at Amsterdam, as may justifie us at London. I will recite one case of his.

Vales Meth.
med. 1.4.c.2.
Riolanus de
circular.
sangu. c. xxx.
Forrest. Obs.
l.xvi. Obs. 33.
in Scholio.

Tulpus Obs.
l.2.c.1,2,3.

Tulpus Obs. l. 2. c. 2.

"*Uxor Cusparis Walendalii, insurrexit, octavo a partu die, acerbissimus lateris dolor: repetens identidem, tot insultibus, ut necesse fuerit, ter pedis, & quinques brachii exoluere venas: antequam comprimeretur, sanguis a suppressis menstruis sursum raptus. Sed ea fuit ipsi virium constantia: ut prater sanguinem toties detractum, sustinuerit insuper ingens alvi profluvinum, antequam integre, evicerit hunc mortuum.*

There is a great variety in the practise of Physicians as to Phlebotomy, some using it more frequently than others do: whether these be rash, or the others indiscreetly timerous, I will not determine now: Both may do well as to the recovery of the Patients; because a judicious person supplies one Medicine by the use of another: But these Baconian Ignoramus's cannot do that. I find that Forrestus seldom, if ever bled his

Pleuritics above once : and *Blondelius* assures me, that the Peasants of France bleed but once in a Pleurisie at the beginning, and recover.

Almaricus
Blondelius de
venæ sectio-
ne, p. 50.

" " Plebeii fere omnes una vice contenti adire Medicum, una sola adhibita venæ sectiōne curantur, & ex decem unus vel duo emoriuntur, & aliquando omnes sanantur. Without all controversie Phlebotomy is one of the most generous remedies in the World, if a man understand the Art of using it : But 'tis our old Books, and not the Novum Organum of my Lord Bacon, or the insipid Writings of the modern Experimentators will qualify a man thereunto. I do believe that *Ectallus* did the wonders he speaks of, but as there were left-handed *Catoes* heretofore, so there is many a left-handed *Ectallus*, that would imitate his practise, yet wants his judgment and learning. I would advise such to be tender how they deal much in this noble remedy, or rather that they would totally desist from practising Physick.

I know that in Germany most are scrupulous about reiterated Phlebotomies, yet *Platerius* commends it in Pleurisies, and adviseth to bleed frequently, even twice in a day in the beginning of the Disease. 'Tis not

Platerius prax.

t. 2. c. x.

I. Riolan. de
circulat. sangu.
c. 20.

that the people there cannot bear it so well as in France, or Spain, but that they will not : There was a time when *Galen* thought that such as the French, could not bear will the loss of blood : and *Valleriola* did imagine that the Moors and Spaniards could not endure it so well as the Dutch, or French : there was a time when to let a Woman with child blood in England, was esteemed impracticable : and the Lady *Drury* was a bold Lady, that in the dayes of Queen *Elizabeth*, durst obey *Ectallus* therein, against the opinion of the greatest English Doctors : But a greater maturity of judgment, and the good success hath undeceived us, and convinced us, that our fears were but panick and vain : and in opposition to *Galen* and *Hippocrates* we accord with *Celsus*.

Boralius de
venæ sect. c. 3.

" " *Siquidem*

Siquidem antiqui, primam ultimamque etatem sustinere non posse hoc auxilii genus judicabant; persuaderantque sibi, mulierem gravidam quæ ita curata esset, abortum esse fakturam, Postea vero usus ostendit, nihil ex his esse perpetuum, aliasque potius observationes adhibendas esse, ad quas curantis consilium dirigi debeat. Interest enim, non quæcetas sit, neque quid in corpore intus geratur, sed quæ vires sint. Ergo si juvenis imbecillus est; aut si mulier, quæ gravis non est, parum valet, male sanguis mittitur, emoritur enim vis, si qua supererat, hoc modo erecta. At firmus puer, & robustus senex, & gravida mulier valens, tuto si: curantur.

C. Collio Med.
dcl. 1, 2. c. 10.

I have seen some of all Ages phlebotomised, and have preserved the lives of some small Children by that means; even Pleurises. But the effects of Phlebotomy in a pleuritic woman, which was within a fortnight of her time, are remarkably described by that cautious Practitioner, Baldassar Timaeus: He did not scruple to let a gravid woman blood, but she was so far gone, as that he trembled: " Tandem non tantum adstantibus mulierculis, sed & ipsa ægra venæ sectionem vehementer urgente, exemplo Petri Salii Diversi, qui ultimo mense, & instanti partus tempore feliciter venum aperuit, jecu aleam, & sed a mediana sanguinem ad uncios circiter sex detraxi, & sic optato successu & matrem & fatum a pressentissimo vitæ periculo, Dei gratia, liberavi. There are a multitude of things to be considered by him that would judiciously practise Phlebotomy in Pleurises; besides what I have intimated: as Whether it succeed another disease, as the Measles, or be primary: Whether it be complicated with other distempers, or solitary: Whether it be crude, or upon concoction: Whether it be likely to be long, or short: Whether the Patient do expelorate,

I have seen Ladies with child to be let blood, when they were continually swooning, and fainting, and extream weak: and that judiciously: for they having large veins, and otherwise a firm and imperfizable habite of body, we did not regard the animal imbecillity, noe the irregularity of a pulse altered by vapours, but proceeded to cure them by Phlebotomy: and it prospered.

Baldass. Timæus respons.
Medic. 58.
Petri Salii Diversi de
affect. particular. c. xxii.

or

or not, If he do ; what colour, and what consistence, or taste the evacuated matter hath : Whether the disease be upon a recrudescence, or not : These are circumstances which he ought well to understand, for as to the time of plebotomy, 'tis one in a long disease, when the beginning is protracted to seven, ten or seventeen dayes ; and another in that which will terminate in seven dayes : the urgency is one in an *incoct* Pleurisie, when nothing is (in due time) expectorated ; and another, when blood, or purulent but benign matter is avoided : and another when the matter is black, livid, very yellow, or stinking, or sweet to the taste : the case alters when Nature doth ease her self by a propitious looseness, and when it is an importune Diarrhaea : when it turns to an Empyema, and when it proceeds to an amicable Crisis. These things are to be pondered by the Physician, and his repute is not to be questioned, for his actions, by such as understand not the case, or apprehend not by what exigences and presidents the intelligent Practitioner is guided. Men ought not to judge of Diseases by their names only ; and condemn a knowing man for doing that in one disease at one time, which neither they nor he would adventure in another : and since it is not allowed us to abandon our Patients in some cases, according to the advice of Hippocrates : give us leave to make use of that *Apology* which Celsus doth suggest unto us : " Fieri tamen potest, ut morbus quidem id desiderat, corpus tamen vix pati posse videatur : Sed, si nullum tamen appareat aliud auxilium, periturusque sit, qui laborat, nisi temeraria quoque via fuerit adjutus, in hoc statu boni Medici est ostendere, quam nulla spes sine sanguinis detractione sit ; faterique quantus in hac ipsa remetus sit, & tum demum, si exigatur, sanguinem mittere. De quo dubitare in ejusmodi re non oportet Satius est enim anceps auxilium experiri, quam nullum. Let the World rest assured, that an understanding Galenist

C. Celsus Me-
dic. I. 2. c. 10.

lenist doth nothing rashly : that he considers of all circumstances, and knows their case better than themselves; that he hath as great a regard to the preservation of their vital strength, as they can wish: and apprehends when to desist, and when to operate, and in what manner: but these are mysteries to the Baconists: and I can give no better directions to the sick, than that they would apply themselves to a prudent Physician, rather than Quacksalvers, and refer themselves to his judgment, without imposing their own, or that of ignorant Experimentators, and Arcanists. And so much concerning Phlebotomy in Pleurisies: the more exact handling whereof, and the accommodating of the Method of Rulandus to that of the Galenists, must be the subject of another discourse: I add only, that Nature it self doth teach us the use of Phlebotomy in Pleurisies; for they are often accompanied with a bleeding at the nose, in the beginning, which is beneficial to the Patient. *Larvi sanguinis fluxus ex naribus multa solunt, ut Heragora. Non agnoscebant Medici.* Though it happen symptomatically, yet is it frequently advantageous, even in Pleurisies: nay'tis an accident we may commonly expect in them: *Quibus febricitantibus rubore in facie, & capitio vehemens dolor, venarumque pulsus, iis ut plurimum fluor fit sanguinis:* and in a Pleurisy, 'tis always the most mild and safe, if the Patient begin his Anacatharsis by a sub-cruent sputation. In fine, she usually terminates this Feaver by an Hæmorrhagy at the Nose, which if it be small doth portend evil; but if it be large, is beneficial. *Pleuritis larga hemorrhagia enaribus judicare potest, stillatione non potest.* And this good fortune did recover Demosthenes out of an incurable Pleurisy, as he relates it himself. " *Febres me continua sequebantur, & cruentatus totius corporis perquam vehementes & atroces: imprimis vero laterum & imi ventris: nequz cibum capere poteram;* & ut Medicus quidam affirmabat, nisi

Hippocr. Epid.
l. 2. sect. 3.
p. 102. cum
notis Villafit.
Prosp. Alpinus
de præfig. vi-
ta & morte.
1. 7. c. 2.
Cosec. prænot.
l. 4. v. 20.
Prosp. Alpinus
de præfig. 1. 7.
c. 16.
P. Salu. com.
in lib. 1. de
morbi. p. 170.
Holler. apud
Isco. in Cosec.
l. 5. sect. 2.
sect. 59.
Demosth. adv.
Cinou. citante
Beverovicio
de Med. vet.
part. 3. c. 7.
p. 312.
& mibi

"mibi doloribus afflito, & jam desperata purgatio san-
 "guinis ultro copiosa supervenisset, me saniosum (iuxtor)
 "factum fuisse periturum: nunc is sanguis recessu
 mihi suo saluti fuit. I have not the original by me,
 to consult the Text: but whether it were at the Nose,
 or by Stool (I believe the former) it is all one to the
 present purpose; but it may seem pertinent to observe,
 that those which bleed much at the Emeroids are not
 incident to Meuris.

The subject of my next discourse must be concerning
 Phlebotomy in the Small Pox: My Adversary
 blames Doctor Willis for allowing of Phlebotomy in
 the Small Pox, upon the nick of their eruption: but
 by way or Argument against the judgment of that
 eminent Practitioner, he alledgedeth nothing but this:
 "Make this good by fact, that 'tis profitable and necessa-
 ry in any such case to open a vein (for dr^o ten, will
 never carry with me) then I shall forthwith become a
 Proselyte to your Method. Assuredly this, I am certain
 of it, was neither profitable nor necessary for the Nation,
 that we should by this means loose three persons of the
 noblest extract. —— I have alwayes looked on
 the discourse of that Learned man concerning Fea-
 vers, as one of the most judicious Writings that ever
 our Faculty produced: 'tis succinct without obscurity,
 and without the omission of any circumstances that fre-
 quently or rarely fall under the consideration of a Physi-
 cian, and the practise, as well as Medicaments so safe,
 so authenticate according to the Rules of Art and
 practical Observations (which we preserve) that
 'tis above all the effects of Envy and Malice.

It is a great abuse to the Doctor which this Bacon-
 faced Helmontian put upon him, as if he approved
 generally and indefinitely of bleeding in the Small
 Pox upon the nick of their eruption. It appears there
 not to be his practise, but upon urgent cases; and
 be,

Hippocr. Epid.
 1.6. sect. 3.
 p.665. cum
 notis Volletii.

p. 8.

be, on purpose relates an History of its evil effects, thereby to deter others from using Phlebotomy rashly in that disease. I shall repeat his words, and method of curing it, as far as relates to the beginning of the disease.

" Quoad primum intentio sit, ut naturæ impedimenta nullif. de se. c. 15.
 " quævis anferamus, quo sanguis variolarum fermento in-
 " quinatus, & coagulari aptus, adhuc motum equabilem in
 " corde & vasis stagnatione retineat, ac effervescentis por-
 " tiones cum veneno gelatus foras expellat: interim cau-
 " sio sit, ne fermentationis, seu effervescentie opus ulla-
 " tenus cobibeatur, aut nimium proritetur: hoc enim cru-
 " oris massa plus debito in portiones congelatus agitur, isto
 " restringitur nimis in motu, nec particulæ vinenatae cum
 " cruento gelato foras emendantur: natura a secretionis
 " & expulsionis opere impeditre solet nimia excremento-
 " rum congerie in visceribus, aut sanguinis exundantia in
 " vasibus; quare primo statim morbi insultu deinda erit
 " opera, ut evacuatio per vomitum, aut sedem, si opus fuerit,
 " tempestive procuretur, pharmacis tantum mitioribus &
 " blandis utendum est, quæ nimirum non irritent, aut bu-
 " more perturbent: quare hoc tempore interdum emetica,
 " purgantia, aut enemata, modo hæc, modo ista locum ha-
 " bent: etiam sanguinis missio, si plethora adstet, bono
 " cum successu celebratur. — Circa missionem
 " sanguinis instanti variolarum eruptione valde ambigi-
 " tur: olim inter nostrates bacres sacra audiebat, neque
 " subullo necessitatis pretextu Phlebotomia admitti sole-
 " bat: nuper autem experientia duce in quibusdam casibus
 " sanguinem nullum omnino utile & necessarium esse consi-
 " probatur: que tamen evacuatio si in quavis constitu-
 " tione indiscriminatur adhibeat, aut quando isthac
 " opus fuerit, in quantitate nimis larga peragatur, magna
 " sape incommoda exinde sequuntur.

These are the words of that intelligent person; whereas— G. T. seems in the English Text to affix upon him such a sentiment as if he allowed commonly

and indiscriminately of Phlebotomy in the very nick of the coming out of the Small Pox : But it may be replied, that he hath done the Doctor justice in the Latin edition : but I think not amongst English Readers, nor in his vulgar discourses. However I shall endeavour to justify the aforesaid Method of Doctor Willis as Artificial, and agreeable to the opinion and happy practise of the best Physicians : and that it may be more manifest, I will enlarge my work, by examining the contrary opinions of some others: for — G. T. gives my Pep here no employment, except it be to tell him, that the three noble Personages which he speaks of were not the Doctors Patients, as I believe: except he be accountable for all that act agreeably to that Method which He (and our best Physicians) layes down: I add, that many Actions are warrantable by Art and Prudence, which are not successful: and to require his Catalogue, I would have him know, that when this young King of Spain had the Small Pox, he was let blood several times: and so was the present Queen of France upon a feaverish indisposition let blood twice, in 1663. and two dayes after the Miasms appeared: And this Lewis xiv. being sick of the malignant and pestilential Small Pox was thrice bled by Doctor Hunter: and for it, received this Elogie from the learned Jacobus Theverus Thevart. — — Ut boni omnes Galli palam profiteantur ac prædicens suum se tibi debere Regem charissimum, quem neque malignis ac pestilentibus variolis perculissime laborantem non cordaci tantum præsidio (ut Medicastrorum quoque vulgaris solet) sed & ipsa, quam in ejusmodi affectibus aversantur ac dannant, sanguinis missione ter, pro symptomatum urgentium necessitate, repetita, salvum & incolumen restituente, innumeris interim in hac urbe populosissima pueris bac Epidemica luec medio sublatiss. Quod ob facinus tam egregium que non tibi landes, vir præstantissime, que non soteria debentur? Si qui civem Romanum in prælio servaverat, querces

Jacob. Theverus
in dedicatio-
ne tomii tertii
Consil. Me-
dicin.

Ballonii, ad
D. P. Francisc.
Vavier Archi-
atrorum Co-
mitem.

quercæ corona dignus habitus est, Tu certe qui Regem Christianissimum ab hoste tam infuso liberasti, auream, qualis est ab Atheniensibus Hippocrati concessa, meruisti. Nec dubito quin si vixisses priscis illis temporibus, quibus inter Heros reserbarunt quicunque insigni aliquo facinore Rempublicam conservassent adjuvissent; quin, inquam, ipse Herorum auxilles numerum, honoresque prope diuinos accepisset. I repeat this passage with the more satisfaction, because it may serve as example to the English, and instruct them with what gratitude and acknowledgments they ought to treat the learned and renowned Physician Sir Alexander Fraser, principal Physician to his Majesty, for recovering our most gracious Sovereign of the like distemper, by the judicious administration of Phlebotomy. I could name many other Persons of Honour, who do confess that they owe their recovery out of dangerous and malignant Small Pox unto Phlebotomy.

Of those that have written concerning the Small Pox; and are therein professed enemies to Bleeding, I shall take only two particularly to task; the one is Doctor Tobias Whitaker, the other Doctor Thomas Sydenham: which I do the more willingly, because the one writing in English, the other practising at London, and endeavouring to insinuate his principles every where, with a derogation from the authorised practice of Physicians, it must needs seem that all who do not take his course, have neither regard to the Patients, nor considered seriously the rise and progress of the disease. I did at first doubt, Whether I ought to reckon them as distinct Authors, because they so far agree in the Regimen and Cure of the disease; that the one doth seem to have stolen it from the other: As will appear by this Parallel.

Doctor T. Whitaker of the Cure of the Small
Pox, p. 22.

" In the Regimen of this Disease, the whole work consists in moderation of Air and Diet, without any other mixtures of violence, or bland impediments, which may altogether pervert, or in or by a less force retard Nature in its motion, the motion of Nature in this case being from the beginning of the disease to the eruption of the pustules *Critical*, and in *Critical* motions the least application of any Medicament is so dangerous, that no expert Physician will admit of it. — — — The Diet is to be *Alimentum medicamentosum*, such as is Milk with Saffron and Marigold flowers.

" Doctor sydenham doth suppose that it is natural for the Blood of all persons at least once in their lives to undergo a great change, and as it were a new form: and that there is no peculiar venome or malignity infecting the Blood, but all is the result of this inclination in it to exchange its state; and in order thereto some parts are to be expelled; and in order thereto must first be separated: This is done by a Feverish Ebullition in the mass of blood, whereby those parts are separated from the residue, and discharged into fleshy parts of the Body, which Nature looks as requisite in order to the change she is going to make: All this is usually done in four dayes, and the Blood is recomposed and becomes as calm in its motion, as it was before. The expelled matter is to be elevated into pustulary abscesses, and there maturated and dried up. For the carrying on of all this work, it is his judgment that the Physician ought to do nothing: But the Patient is to be kept in a moderate heat, and temperate diet, taking nothing that is cold; and

He observes that this Feverish, or great ebullition is not constant to the Small Pox, but that the separation and expulsion is frequently performed without any great sense thereof, the Patient never confusing himself with the chan-

bor.

' and not so much as being confined to his bed beyond
 ' his ordinary use, except necessity require it, and then
 ' he is to use no more clothes, nor warmth than he accu-
 ' stomed himself unto in health, not so much as being
 ' obliged to keep his armes in Bed. On the fourth
 ' day he gives them one very gentle Cordial to promote
 ' their eruption, and abandons them to Saffron and
 ' Milk, to be given twice a day, and ordains that he be
 ' kept in a constant moderate warmth, such as is natural,
 ' and usual to the Patient.

This is the sum of his Method, except I add, that
 ' when they are upon maturation, he gives a mild Cor-
 ' dial twice each day, morning and evening: And in
 ' case that during the time of the decumbiture of the
 ' Patient by any accident a new Feaver arise, then is the
 ' Patient to be kept still in such a proportionate heat as
 ' is usual to him in health, if the season be temperate, he
 ' is not to have a fire; to be dieted with small Beer
 and Water-gruel, stewed Apples, or the like, but to
 ' have no Cordial, not so much as Harts-born posset-
 ' drink.

By this Method Doctor Sydenham doth not doubt
 but this disease which so affrighteth people, and is so
 frequently mortal, will pass off with much gentleness,
 ease and safety.

Betwixt these two there is a little discrepancy in
 their Method of curing the disease: though there be
 some in their expressions, and Doctor Sydenham doth
 seem the Comment, the other the Text. Both of them
 oppose Phlebotomy, Vomits, Purges and Glysters, as well
 as Sudorifics. Though they differ in the reason for
 their rejecting Phlebotomy; For Doctor Whitaker doth
 avow, that it draws from the Circumference to the Cen-
 ter: But Doctor Sydenham yields, that it produceth a
 quite contrary motion, and canseth the Small Pox to come
 out.

Doctor

p. 25.

Doctor Whistler doth avow, that this course of his is the old English Method, and the ancient, national, and successful government of our Nation. But Doctor Sydenham would seem to erect his practise upon his own Observations; though all he propose (in a manner) be no more than the common aplings of Country-peoples; (except when by any accident the Fever be exasperated in the beginning, or progress, that he prohibits Cordials) and what I believe was derived from Avenzoar, and Fracastorius.

Foweſt. obſ.
l. 6. obſ. 44.

p. 25.

Proſper. Alpin.
de præſag.
vit. & morte.
lib. 6. c. xi.

Of these Writers it is remarkable, that Doctor Whistler doth never allow that there can be any malignity in the Small Pox so great and urgent, as to induce a Physician to intermeddle beyond a moderate Diet, and temperate Air: because the Motion being Critical, admits of no violence. But this is a great Error in the fundamentals of Physick. For, first in Diseases complicated with malignity, not only the prognosticks, but the issues are very uncertain as to life, or death, and the Critical evacuations deceitful, so as that oftentimes they bring a momentary alleviation; oftentimes, notwithstanding those evacuations, the distemper increases, and the Patients dye: This every man understands who is conversant in our accounts of Malignant Fevers; so that to grant at any time that there is a malignity, or venenate indisposition in the sick, and to abandon him to a temperate Air and Diet, relying upon Saffron and Milk, is a practise never to be justified in Physick. But alas! we are not to be affrighted with the bug-word, Critical motion, nor half an Aphorisme out of Hippocrates; viz. *Quæ judicuntur, siccere oportet.* These general sentences neither qualify a Doctor in Law, nor a Physician: It becomes us to consider in a Critical motion several things:

First, (Supposing it to happen in its due time) we must consider whether it be only a Motion, or whether

ther it be proportionate to the Disease : for no evacuation that is diminute , is properly *Critical* : If therefore the pathognomies of the Disease be such as argue a multitude of the *Small Pox* to be requisite for the recovery of the sick , and only a few come out, the Physician is obliged to assist Nature.

Secondly, Supposing that they do come out plenti-
fully, yet if they be not such as should come out, but
black, livid, green, or interspersed with purple spots
(not to mention other circumstances, which every
Nurse can tell) tis certain that the evacuation (how
critical soever) doth not oblige the Physician to stand
an *idle Spectator* : No more ought he to be incase that
all *Symptomes* increase upon the critical motion , and
his *Feaver* and *dangers* multiply thereupon.

Ta xerion Hippocr. Aph:
με το μέση πνευπάδιος, αν οι ρόπη δια στή, καρπούς. 23 lect. 1. &
aph. 25. lect. 11.

Thirdly, It is requisite that the *Critical evacuation* be *per loca conseruentia*, by such wayes as are necessary to the disease : But if the *Small Pox* during their eruption be attended with a *dysentery*, *bloody urine*, or other pernicious excretion ; that scrap of Hippocrates will not excuse the Physicians negligence ; for it supposeth that all the conditions requisite to a good eva-
cuation be found in that which the Physician is not to intermeddle with. I need say no more to intelligent persons : tis not my present work to turn *Institu-
tionist*.

Whether Doctor Sydenham intend to ascribe *sense*, *appetite* and *judgment* unto the *BLOOD* I cannot well tell ; but either He fantasth in *Metaphors*, or explaineth himself, in his general *Hypothesis* about *Feavers*, as if his meaning were such : *"Quinimo nec med*
"sydenianus liquet febrilem sanguinis commotionem
"sepius (ne dicam sepius) non alio collineat, quia ut
"ipse fere in nodum quendam flatum, & diathe-
"sin immutet, hominemque etiam cui sanguis purus

& intaminatus perflat, febre corripi posse: sicuti in
 corporibus sanis evenire, frequenti observatione com-
 pertum est, in quibus nullus apparatus morbificus, vel
 quoad plethoram, vel quoad cacockymiam fuerit, nulla
 insalubris aeris anomalia, qua febri occasionem submi-
 nistraret. Nihilominus etiam hujusmodi homines, præ-
 cedente insigni aliqua aeris vel vietiis; ceterarumque
 rerum non-naturalium (ut vocant) mutatione identi-
 dem febre corripiuntur; propterea quod eorum san-
 guis novum statum, & conditionem adipisci
 gestit, qualem ejusmodi aer aut vietus postulaverint:
 minime vero quod particularum vitiisarum in sanguine
 stabulantium irritatio, febrem procreet.

'Tis true he did not pen it in *Latine*, but another
 (Mr. G. H.) for him: and perhaps his skill in *that*
tongue may not be such, as to know when *his* thoughts
 are rightly worded: But it seems strange and *irratio-*
nal to attribute such an *understanding* to the *Blood*; and to transmute a *natural Agent* into one that is
 spontaneous: and, which is more, having represent-
 ed it as such, to make it so *capricious* as not to know
 when it is well; but to run *phantastically* upon such
 dangerous changes as occur in *putrid Feavers*, and the
Small Pox; for even in *this last* ariseth from *a desire*
the Blood hath to change its state. Since *natural Agents*
demean themselves uniformly, and of *them* 'tis most true,
Idem, quatenus idem, semper facit idem: I was surpri-
 sed to see these *new principles*, and to see *effects* of *this*
nature arise without any cause. It doth not seem possi-
 ble for him ever to demonstrate that there is no *Ple-*
thora, or Cacockymy, or obstopation of the pores of the
body antecedent to a Feaver: nay the contrary seems
 evident to all *Physicians*; nor ever was there any
 whereunto they did not attribute some *procatorick*
 cause. Besides, he doth not alledge any *Reasons*, or
Experiments, to shew that there is any *alteration in the*
blood before and after the Small Pox, or a *Feaver*, or
 any

any difference betwixt the Blood of such as have had those diseases, and of those which have not had them. So great a *supposition* ought not to be made without ground. And since it is *natural* (and Nature is constant) why is not the Disease more ancient and universal than it appears to be? For, if there be any grounds to think the Small Pox to be of long continuance, 'tis certain 'tis but seldom spoken of by any old Writer: perhaps once by Hippocrates (yet so as never to be understood by any that hath not seen the indisposition) and never by Galen. It may be imagined to have come from *Egypt* by contagion, and might have been called *Bubas* *Exan*, *Quia urbi Bubasti Egyp-tiae familiaris hic morbus*. It infesteth some places more than others. In *Grecia noui* adeo frequens. Ideo antiquiores *Hedici* *vix ejus meminerunt*. In the *West-Indies* it was not heard of till the *Spaniards* came thither: and they (as also the *English* there) seldome have it. I believe the Disease to be novel, and of no longer date than the *Sarracenic* revolution: I could instance in the nature of such great alterations, that they have ever been preceded and accompanied with many petty changes in other things: and if ever I have so much vacant time as to make political reflexions upon the rise of *Mahomet*, I may declare much to this purpose. This is that *invidious* subject about which *Eccbolius Glanvill* makes so much noise: as if, to avow that *Mahomet* were a Gentleman of noble extraction, married to one who for birth, riches and beauty might have been a Princess; and accomplished with that sober Virtue, Wit, Eloquence, and Education, by much travel (for he travelled all over *Egypt*, *Africk*, and *Spain*) as to render himself one of the most considerable of his Age: or to say that the Christians were so ignorant, and debauched, and perfidious, and addicted to *Legends* more than to the sound *Doctrine* of the *Gospel*, at that

A a

time,

Salmas. de an-nis Climacter.
p. 726, 727.'Tis Epidem-i-cal to *Egypt* at this day.*Prof. Alpinde med. Egyp-t. l. i. c. 14.**Roderic. a Fonfeca Con-sult. Medic. t. i. consult. 48.*

time , that most of the *Fables* in the Alcoran were accommodated to the honour of the times , more than to truth (and so Mahomet told them) or to say He pretended to revive Ancient Christianity ; were to be an Apologist for the Mahometans , and an abettor of the Alcoran : Whereas none but the Illiterate can deny these things : and the Age our *Virtuoso* speaketh of is the Age of *Apostacy* , according to the Doctrine of our Church . Oh Heavens ! to what an height is Impudence and Ignorance arrived ! Or what can be safe , if so prudential and generous a design as I had must be calumniated by such a R —— in this manner ! But to resume my discourse , in the behalf of my opinion concerning the novelty of this disease , (besides what the learned *Mercurialis* hath said)

Rodericus a Fonseca in ap-
pend. ad Iuc.
chin. de febr.
c. 54. vice &
Rambin. de
morb. puer.
sept. c. 1.
p. 258.
Hofman. Ani-
madu. in
Monton. c. 7.
sept. 15. &
Instit. l. 3.
c. 109. sept. 1.
& *Nardicus*
not. genial. 7.
p. 456. 457.

I shall conclude with the words of *Rodericus a Fonseca*, which are these. “ *Si ex nativitate esset, ab initio mundi fuisse, aut saltus ita frequenter tunc, ut nunc solet esse: et licet antiqui aliquam de his pustulis mentionem fecisse vissint, ea certe exigua est, & dubia, ut certum sit, vix illis temporibus fuisse talen morbum: negligentissimi certe habendi essent, si tam ingens, com- mune, & frequens malum; illotis manibus, silentio in- voluissent: & cum morbus sit puerilis, Hippocrates eas numerasset inter etates, 3. Aphor. ubi diligentissime pue- rorum morbos connumerat; & tamen nullam hujus mali fecit mentionem: sed illud satis demonstrat, hunc mor- bum novum esse; quod in multis mundi partibus nun- quam visus fuit, ubi nunquam apparavit, nisi postquam Hispani eo pervenere: siquidem per contagium Aethio- pis cuiusdam illuc delati, magnam Indorum partem su- stulit.*

I might here insist upon the *Hypothesis* of Doctor *Sydenham*, concerning the Inclination of the Blood to change its state : I cannot believe but that the Physicians understood themselves as well before he
writ;

writ; when it was said, that there was in every one that was born, something of impurity in the body, which was naturally to be purged out by an ebullition in the blood, and such an effervescence as terminated in those Abscessus called the Small Pox. Quandoque accidit in sanguine ebullitio secundum sensitam putredinis cuiusdam de genere ebullitionum que accidentunt succis: & talia quidem accidentia fiunt per eam, ita ut partes eorum ab invicem discernantur. Et de hoc est cuius causa est, res quasi naturalis faciens ebullitionem sanguines, ut expellatur ab eo illud, quod ad miscetur ei de reliquis nutrimenti sui menstrualis, quod erat in hora imprægnationis, aut generatur in eo post illud ex cibis faculentis, & malis, de illis quæ rarificant substantiam ejus, & faciant eam ebullire, donec fiat & substantia recta fortior prima & magis apparet: sicut illud, quod natura efficit in succo uvae, ita quod rectificat ipsum, faciendo vinum similis substantiae: & jam ex pulsa est ab eo spuma aerea, & fæx terrena. He that can English this passage will find in it the ebullition, separation, expulsion and despumation of our Doctor. In truth those terms, nor that which he imports by them are no novelty amongst Physicians: and Rhases (as Sennertus saith) doth not make any mention of those uterine impurities as the cause of the Small Pox, but compares the Blood to Must, in which some impurities are to be separated by Ebullition. Wherein the whole Hypothesis of this semi-Virtuoso is contained: However, I cannot allow any more to his Observations, than if a man should go without his doublet, and pretend to a new Mode of wearing Breeches. But that which is most intollerable in Doctor Sydenham is, that He seems to attribute all the evil consequences of the Small Pox to the indiscretion of those that attend them; be they Nurses, or Physicians. Thus (p. 150. Edit. 2.) he makes as if Nature did discharge it self in that disease into the fleshy parts

Avicenna de febribus, c. 6.
de variolis.

Rhases de pestilent. c. i.
Sennet. de febri. 4. c. xii.

Ex Augen. de only: so that if the *Eyes, Lungs, Stomach, Guts, Pancreas, or Membranous parts* be affected, 'tis not the violence of the Disease, but the ignorance of the Attendants which occasioned that: which is intolerable for any man to say, and refuted by Experience.

P. 594.

Fencl patho.

1.4 c.18. & de

abdit. rerum

causae, lib. 2.

c. xii.

Coll. do ob. in

Haller. meth

c. 92.

Id. Dan. Horfla-

ss obf. Ana-

tom. 9.

Dr. Sydenham,

p. 138

I might proceed to demonstrate that there is not *any* thing new in the whole *Cure* which Doctor Sydenham useth: that in the beginning of the *Small Pox*, before the *eruption*, being as ancient as *Bayrus*, it not derived from the *Arabians*: And the rest hath been inculcated by an hundred *Writers*: provided the *Small Pox* were gentle: yet, as much as they have been for the keeping of them *moderately cool as to Air, or Diet*, before the *eruption of them*; yet I dare say our Doctor is the first who ever did imagine that the *longer* they were in coming forth the *better* it was. *Mibi quidem ratione consentaneum videtur, ut quo diutius Natura separationem molitur, ac perficit, dum modo ebullitione non omnino torpeat, eo certius atque universalius eadem separatio absolvitur.* For our best *Writers*, as *Mercatus, Augenius, Forrestus, Sennertus, Riverius, Ronchinus*, and others, do avow, that the sooner they appear, the better is the *presage*. But all this while his discourse extends no furtherr, than to that sort of *Small Pox* which is mild and favourable, not accompanied with any perilous or mortal *Prognostics*. but should any such case happen, these two *Doctors* leave us in obscurity, and we must help our selves, for they give us little of assistance.

I shall therefore proceed to enquire what *directions* the most judicious *Writers*, and *Rules* of our *Art* prescribe unto us in this *Disease*.

It is confessed that the *Small Pox* are sometimes so mild as not to be accompanied with any *Feaver, or evil Symptome at all*, so that the *Patient* need not be confined

sined (at least is not) to his Chamber, and any strictness of Rules: This is granted by *Avicenna*, *Rbases*, *Coyttar de Schenckius*, *Hollerius*, *Epiphanius Ferdinandus*, *Coyttarus*; and *Franciscus Rubens*, whose words are these: *Variola aliquando sine febre*, & aliquando cum febre mibi & placidissima, nonnunquam cum febre acuta, & quondam cum febre maligna erumpunt. In this case there is no doubt but the Physician may do nothing, and ought to do little, there being no need of his assistance.

It is confessed that sometimes the small pox are attended with so gentle a Feaver, of the nature of a *Synochus simplex*, that the Patient may do very well, by the directions of Doctor *Whitaker*, and Doctor *Sydenham*. Yet must I add, that, supposing the truth of these two Cases, I cannot conceive it proper to imagine that the small Pox are then a Critical motion of Nature: there being in the one juncture no Disease whereof they should be a Crisis; in the other no such Disease as to discharge it self in so copious an evacuation. The Notion of a Crisis in the production of the small pox will seem more absurd, when we consider how frequently it happens, that notwithstanding their coming out plentifully, the Feaver doth still continue, and increaseth the dangers of the Patient. Besides, How is it a Crisis, when there seldom proceeds any Coction, and when the preceeding Disease observes no times?

Of those Diseases which terminate by a Crisis there is a great variety in the evacuation insuing thereupon, as an *Hæmorrhagia*, looseness, sweat, profusion of urine: but here, whatsoever the nature of the Disease be, a *Synochus simplex*, putrid, malignant, or tertian Feaver, the Crisis by the Small Pox is constantly the same: and the expulsion not only towards the skin and habit of the body, but every way, as on the stomach, Throat, Lungs, Guts, &c. and after this kind of Crisis it frequently

Coyttar de purpur febr.
p. 245.

Rubens No.
etern exer. 7.
in scholiis.
p. 104.

Joseph de Mo-
dice apud
Greg Horſ.
t. 2. p. 55.

Hor. Augen,
de febre. l. 9.
c. 5.

quently happens that the Patient dyes, no errorr intervening: whereupon *Joseph de Medicis* exclaims after forty years of practise. *Hei mihi, quoties malitiosæ variolæ me fefellerunt!* And *Augenius*, though he be inclined to the Opinion of Doctor *Whitaker*, to explain this *Crisis*, is forced to desert the vulgar notion of a *salubrious Crisis*, and include in its definition, even those that are *noxious*, saying out of *Galen*: *Crisis est mutatio quædam subita ad salutem, aut mortem:* and after all concludes thus: “*Hæc si vera sunt, ostendunt rectissime dixisse Arabes, variolas contingere per modum cuiusdam Crisis: siquidem modus quidam est particularis, quo febris magna saneri crisi conservavit, longe distans ab aliis. Omnes enim aut per vomitum, aut per alvum, aut per urinas, aut persudores sanantur; ut hujusmodi febris nullo ex illis sanatur modis, sed persolam superficiem, non extimam solum, ut ardentes febres, quæ sudore copioso superveniente liberantur, sed extimam & intimam simul, utque sic per abscessus parvos, quos pustulas nuncupavimus, ubique procreatos. Nunquam alvi fluore, nunquam vomitu sanantur; imo si forte adveniant, pessimum signum est.* But if we take *Crisis* and *Critical evacuations* in this sense, 'tis certain then that a *Physician* may and ought frequently to *intermeddle*, notwithstanding that *Nature* is already engaged *critically*, and the foundations of this *Doctor* are threby overthrown.

Avicenna de febre. c. 6. with whom agrees Francoforius, and, I think, the generality of *Physicians*, who make it to bear some reſemblance of a *Crisis*, but not a *Crisis*. I add, that if the motion of the *Small Pox* be *critical*, then is not the *Small Pox* properly a Disease of it self, but the termination of one. And therefore the *Arabians* did prudently say, that the *Small Pox* do happen, per viam cuiusdam criseos, in the way of a *Crisis*, not that they are properly the *Crisis* of another disease. They are generated by an effort of *Nature*, which dischargeth it self of certain humours which are offensive unto her by their quantity, or quality; and this is done not by their eruption in the exterior parts, but even

even in all the entrails, and other internal parts : and sometimes this evacuation is a discharge of so crude, malignant matter, that it is destructive to the sick : which is not usual in a Crisis : and this is that which the Arabians call *Ebullitio secundum semitam putredinis*; which made *Fernelius* and others ascribe thereunto a venenate quality.

Hoc & morborum fædus testatur, tam deformis aliquando visa, ut occæcutis oculis, universa cutis in squammas fætidas & in crustas ingentes solveretur: corpus omne non aliter contabeficeret & macie nigroreque torreretur, quam si menses quatuor e furca pendisset.

*Fernel. de ab.
dit. rer. caufis
lib. 2. c. xii.*

It is avowed that there is more than one sort of Feaver which is antecedent to the eruption of the Small Pox : and common Reason will tell us, that in such cases the Physician must vary his Method : if the Feaver be a *Synochus simplex*, without any putrefaction, 'tis not to be doubted but that the Small Pox may be cured by the course prescribed by Doctor Whitaker, and Doctor Sydenham : but what if it be a *Synochus* joyned with putrefaction, or malignity ? Must we then abandon Nature to her self, and stand Idle Spectators amidst so great and visible dangers ? If the Small Pox be a Crisis of the Feaver, what influence hath that consideration upon us, before the time of the Crisis ? Are we not obliged to facilitate and secure the Crisis by convenient means before it approach ? May it not otherwise happen that there will be too great a redundancy of humours, so that Nature will not be able to guide them orderly, and for the benefit of the Patient ? Do not we see this frequently to happen, where no irritation hath been through Sudorifics, or other Medicaments ? Doth not it often happen, that Nature not being able to command the turgent humours, they have so fixed themselves in several principal parts, occasioning Swoonings or Syncopes, Dysenteries, as to destroy the Patient

Patient in the beginning & or so to imbecillitate him, that he hath afterwards languished in a *Consumption*, been deprived of his eyes, or limbs, and subjected to incurable *Ulcers*? It was observed in *Germany*, in Febr. de Scor-zonera, p. 81, 1644. that the *Small Pox* reduced some to an *Atrophy*, *Asthma*, and *Consumptive coughs*: some have had not only the *habit of their body* strangely vitiated and altered; but even their *bones* corrupted and corroded into a *Pseudorthroce*, or *Spina ventositatis*: some have had the *Articulation* of their *Joynts* so depraved, that they have become *immoveable*, or *crooked*. Oftentimes we see that after the first *Feaver* is abated, and the *Small Pox* come out in great plenty, a *looseness* follows, or a new *Feaver* prevents their maturation and destroys the Patient.

From these Considerations I dare confidently deduce this Conclusion, That it becomes a *Physician* in the *Small Pox*, to examine well in the beginning, the *constitution* of the Patients body, if it redound with *peccant Humours*, or no: it being easie to apprehend, that what is a *Cacochymy* before this Disease, will degenerate into a *virulency* and *malignity* in the course of the Disease: If it redound with *too much Blood*, as having more than is requisite for the *commodious discharge* of that Disease: for if the body be either way *Plethoric*, there is apparent danger least the Patient be *strangled*, or that the *turgent Humours*, being either streightned for want of room, or too *luxuriant* to be guided, will fall upon some *important part*, and so create *inseparable evils* in the progress of the distemper. He ought also to inquire diligently into the preceding season of the year; since that adds much to the *mildness* or *perillousnes* of distempers: As also into the present sickness, whether it be in others attended with any thing of *unusual malignity*, or *pestilence*: for in such a case, he must increase his care, as dangers multiply. He ought

Forrest. obs.
lib. 5. cib. 44.

*de febr. l. x.
c. i.*

ought also to weigh well the first Symptomes, whether they be so violent as that the Patient is not likely to have strength to support the continuance of the Disease: If the Feaver be great, and accompanied with swoonings; if the Patient being thirsty, restless, molested with a vomiting, difficulty of breathing, a dangerous Cough, violent and ill-coloured Diarrhaea, or Dysentery, bloody or black Urines: It is not to be doubted in these cases, but the Physician is to make such provision, that so ominous a beginning may conclude well, if it be possible. And since so great a distemper requires great and generous remedies: two things will at first (if he come timely enough) fall under his debate & viz. Phlebotomy, and Purging.

Concerning Purging many are very timorous, because that a Looseness is dangerous in the Small Pox: as also because that they fear least it should divert the Humours from their natural tendency, and draw them into the Bowels. But neither of thele Reasons are of any great validity. For neither is a momentany Looseness (and 'tis that which is equipollent to a Minorative purge) dangerous in the first beginning of the Small Pox, before they come forth: Nor is there any danger that a gentle Purge should create a Flux; but rather prevent any such subsequent evil, by carrying off the peccant Humours, which by continuing in the stomach and intestines would contract a malignity. And indeed this consideration is of such importance, that it ought to sway a Physician to give some Lenitive in the beginning, when he sees occasion. Neither will he thereby divert Nature from the expusion, but rather facilitate it, and by diminishing part of the redundant Humours, enable her to overcome the rest with more ease: whereupon Augenius, Ranchinous, Franciscus Rubeus, Riverius, Gregorius Horstius, and other excellent Practitioners do take this course. And Ballonius observes:

Bdvm. Epid. c. c. An commode prescribi possunt medicamenta anti-
 L. 1. p. 37. vide quam morbilli se produnt? An illa impedit motum
 For. 3. obs. natura? Imo inopinato venam secuimus, & medica-
 h. 6. obs. 49. mentum purgans deditur, quibus die sequenti, aut po-
 stridie apparerent variola, & melius multo habuerunt,
 quam quibus non ausi fuerimus idem exhibere: sic pa-
 rum probabile, quod dicitur, minus affatim erum-
 pere populas si corpus ante purgaveris.

As for Phlebotomy, were it not for *capricious humours*, or *indiscreet fears* of some persons, there could be no question about the *legitimate use* thereof in this Disease. For there is not any *Indication* for Blood-letting which may not occurre in the Small Pox: And 'tis as *vain a surmise* to think that an *intelligent Practitioner* will do any thing *rashly*; as 'tis an *irrational course* (though too common) to *censure Men* for the *ill success*, when they act according to the *best of their judgment*, and the most solid *Rules* of their *Art*.

The present Controversie includes two Debates: The one *Concerning Phlebotomy in the beginning of the Small Pox*, before their eruption: The other *Concerning Phlebotomy after their eruption*. In both which cases I do avow, that Phlebotomy may be oftentimes prudently, and sometimes is necessarily administred. I use this manner of speech, because that Physicians do make a twofold use of Blood-letting: One, when the nature of the Disease and its greatness do absolutely require Phlebotomy, as the most proper Medicine, and without which in all probability the Patient will run an apparent hazard of his life: A second, when it doth not seem so absolutely necessary to Phlebotomise the Patient, but he may recover by other means, without it: yet because this is the most rational and safe way, Physicians do insist thereon, that so Nature being disburthened

Ferdinand.
Mens com-
ment. in lib.
de sang.
emiss. 12.

shened and alleviated in part thereby, may with more ease overcome the rest. Thus in some Diseases Galen professeth he omitted to bleed some Patients, because they would not indure it : whereas had he esteemed it extreamly necessary, he would not have declined that Remedy, and used a Purge instead thereof : But he looked on it then only as a most convenient Remedy. From whence I deduce, that whensoever any man reads any Author that doth not practise Phlebotomy in the Small Pox (as J. Michael Febr, and one Langius, now Professor of Physick at Leipsic, or Angelus Sala) the uselessness or danger of the Remedy is not to be concluded thereupon : since it is evident that Physicians are inforged often to comply with the Humours and prejudicate Opinions of their Patients, and the Countries where they live ; and do not alwayes act according to their best judgment : Nor doth it follow, that because the imprudence of some hath been, or is successful ; that therefore we ought to relinquish the more wise courses, or condemn as needless those cares which Discretion it self doth put us upon. Neither ought we to be swayed by the Negative testimonies of Writers, or Practitioners : For it doth not follow that what one (or more) hath not tryed, or seen, is impossible, or impracticable : The happy Experience of the Affirming party is the most convincing : as our common Logick informs us. They who condemn Phlebotomy in the Small Pox, either condemn it because they have experienced its evil effects therein ; or because they have only a sinister opinion of it, and some specious reasons against it : If the last ; they say nothing of moment : it being the dictate of Hippocrates, Ὀρθα· φῶν ἐστι μετέπειδα μάλα, οὐ γνωμαν. And Aristotle long ago censured those who out of a preconceived opinion of the event of a thing did form their judgment ; and imagine it must happen so, or so, because they think it will do so. If they have so often tryed the evil suc-

4. de faint.
tuend.

De dicta, l. 2.

c. 5.

Frederic. Bo-
niventura de
partu octo.
Institri. l. 5.

c. 64.

cess thereof, 'tis necessary that they confess they have killed a great many thereby : or at least that they profess they have seen the sad Experiments thereof made by others : and to make this any way convincing, they must first assure us that such Experimentators were Artists, and understood their Faculty so well as to weigh all circumstances requisite to the due admini-
string of Phlebotomy ; otherwise the Actions of the most judicious shall be condemned through the ignorance and folly of others : and it must be demonstrated, that the death or other evils which befell the sick, were the direct consequences of the Phlebotomy ; and not by accident, and from some particular juncture, or missons : least we commit the Fallacy of *Ad dicto secundum quid, ad dictum simpliciter.*

p. 27.

Doctor Whitaker is pleased to call the practise of Phlebotomy in the Small Pox, the Mode of France ; and makes as if that were the principal Argument produced for it. viz. " The greatest Argument to confirm this practise, is, the Mode of France : by the same argument they would prove stinking and putrid flesh, both of fish and fowl to be most comfortable to the sense, and corroborative to the Animal spirits : and if their Rhetorick be no better than their Logick to perswade persons of reason and sense to accept their Mode, it is most probable it will prove the Numismata of Galen, which is a quare that will pass no further than their own Countrey. —— He afterwards call it the rash practise of Modish persons : adding, " I call it a rash and inconsiderate practise in this Disease, because it is a doubt indetermined amongst the most learned Professors of all Nations, both Greeks, Arabians and Latines, and all others principled from them ; being all of them unresolved of Phlebotomy in the Small Pox, upon any Indication to be a safe Remedy : And if the disease be conjunct with

p. 28.

an

* an undeniable plethora of blood (which is the proper
 * Indication of Phlebotomy) yet such bleeding ought to
 * be by Scarification and Cupping-glasses without the cut-
 * ting any Major vessel. — Assertions so general
 and peremptory as these are ought to be very well ground-
 ed, or else they subject the *Author* to the imputation of
Opiniority, and *Ignorance*. I will not deny but some
may have justified their practise by the customary pre-
sidents of the French Physicians ; who neither want
sufficient knowledge in their Faculty, nor prosperous suc-
cess to urge against all *Cavillers* : And this they may
have done, not that ever they could judge it a *Hode*
peculiar to the French, but because that *Nation* is
our next *Neighbour*, and so well known unto us, that
they needed not extend their discourse further: nor do
there want reasons to shew that *If it be requisite for*
the French, and they can bear it : *It is more requi-*
site for us, and we can better tolerate it. For
our diet is more plentiful, our habit of body more firm ;
our innate heat, by the coldness of our Climate, more
concentrated and vigorous ; our redundancy of blood is
greater : and our pores more dense and apt to be obsti-
pated, than theirs ; and if we may aggravate the ma-
lady from the dismal effects and impressions it produ-
ceth in the faces of the sick, I think I may say it (I ne-
ver was in France) that the *small Pox* are worse in
England (which indicates greater Remedies, for the
most part than in France, since the disasters which be-
fall good faces are more frequent and notorious here
than amongst them.)

But, I do affirm that *this practise* is not only the
Hode of France, but of *Spain* and *Italy* as well as
Ægypt and *Africk*; and that 'tis authentick in high
and low *Germany*, and *Denmark*: And whereas he
says that *the usefulness of this Remedy, is a doubt in-*
determined amongst the most learned Professors of all
Nations, both Greeks, Arabians, and Latines, and all
others.

others principled from them : It is a gross mistake : and there is more of truth in that opposite saying of

Hor. Augen. de Augenius : “ Omnes, qui de variolis scriperunt, febu. lxx. c.iv. unanimi consensu, principium curationis, illarum fieri debere a vacuatione sanguinis contendunt, ideoque venam incidentam esse, aut scarificationes administrandas, aut hirudinibus applicitis sanguinis vacuatione procurandam.

Concerning the Greeks, I have considered the passage in *Hippocrates* concerning the Son of *Tmionax*, and whatever else is alledged out of him, or *Aetius*, yet cannot be satisfied that ever they knew anything of this disease. They that do believe it (as a strong *imagination* may transport a man far) may reply, that since the Malady was rare then, and different much from ours 'tis not to be wondered that they speak so little of the Cure ; and never determine a doubt which they never thought of. As for the Arabians nothing is more certain than that they considered the disease, and all circumstances, and did determine in the behalf of Phlebotomy ; and whosoever is principled from them (as all in a manner of the subsequent Physicians have been) must allow thereof. I do not remember to have read that any of them did ever prohibit Phlebotomy in this case, except it be *Avenzoar*, who is said to have given the like directions that Doctor *Sydenham* doth, viz. *To do nothing in a manner* : but relinquish the work to Nature entirely. How *Avicenna* determines the doubt, his words will best shew.

Avicenna de febr. c. 10.

“ Oportet in variolis ut incipiatur, & extrahatur sanguis sufficiens, cum conditiones fuerint. Et similiter si morbillus fuerit cum repletione sanguinis. Et spatium illius est usque ad quartum. Sed quando egrediuntur variola, non oportet iuncte administretur phlebotomia, nisi inventetur vehementia repletionis, & dominium materie : tunc enim phlebotometur quantitate quæ alleviet, seu minoret. Et convenientius quidem, quod in hac admi-

Hippocr. Epid.
§ 7. p. 894.
cum notis
Vellejii.

administratur ægritudine est phlebotomia. Et si
 phlebotometur vena nasis, consert juvamentum fluxus
 sanguinis narium, & tuetur partes superiores a malitia
 variolarum. Et est magis facilis super infantes. Et
 quando necessaria est phlebotomia, & non phlebotomatur
 iterum complete, timetur super ipsum corruptio extre-
 mitatis. Whence it is apparent, that amidst such cir-
 cumstances as amongst Physicians usually seem to re-
 quire Phlebotomy, he doth allow the practise thereof in
 the small Pox, before they come out, be it on, the fourth
 day, or later that they discover themselves. After
 they do appear, he alloweth not, except there be a
 manifest plenitude, and surcharge of morbid humours,
 then he alloweth only a minute letting of blood, and
 not what is too copious: and adds, that in this disease
 'tis most convenient to let blood; and if the Patient
 be not blooded in a Plethoraic constitution, and that by
 a repeated phlebotomy, according to the exigency of the
 case, that is, compleatly, there is danger least the party
 suffer the corruption or los of some of his limbs by a
 Gangrene, or other evil accident: for when the redun-
 dance of the expelled matter is such, that it cannot du-
 ly maturate and transpire in the pustules, it frequently
 corrodes the ligaments, and tendons, and otherwise vi-
 tiates the remoter parts of the body; even Worms
 have been bred in a pestilential Small Pox, all under
 the pustules: as at Stralsund, in 1574. sometimes the
 matter not finding room to disburthen it self in the
 circumference, turns its course into the bowels, and be-
 gets mortal Diarræas and Dysenteries. Of the same
 opinion is Rhæses, as appears by what is extant amongst
 the Scriptores de febribus: viz. "Si antequam appa-
 rere incipiant, medicus ægrum inveniat, minuere eum
 faciat, aut cum ventosis sanguis extrahatur. Minua-
 tur equideni sanguinis multitudo. It is true,
 that there he prohibits Phlebotomy after the Pox come
 forth: but I find him cited by others as concurring
 with

Joseph de Ma.
 dictio apud
 Greg. Horst.
 t. 2. p. 46.

Fr. Joæl prax.
 l. 9. sect. 5.
 sect. 2.

Rhæses (inter
 Scriptores de
 febribus) c. 18.

with *Avicenna* as to bleeding even at the nose, as extremely beneficial; and to approve of *phlebotomy* after they come forth, in case the Patient find no alleviation thereupon, but there continue signs of a plenitude, or redundancy of ill humours, a great Feaver and difficulty of breathing. But there is another piece entitled unto *Rhases*, wherein how indulgent he is to *Phlebotomy* you may learn from *Augenius*.

Rhases. 18.
Cont. & citan-
te Diomed.
Anico in
tract. de va-
riolis. c.x.
Horat Augen.
de febr. l. x.
c. 3.

" Rhases libro
" suo de peste, capite sexto : mittendum esse sanguinosa
" vult pro quantitate plenitudinis ; si enim maxima fue-
" rit, non veritur vacuare usque ad animi deliquium : si
" medicris, mediocriter educit : si parva fuerit, paulum
" sanguinem educit : verba ejus sic habent. Tu ve-
" nam incidito, & quam multum sanguinis ef-
" fundito : scil. ad sanguinis defecionem usque.
" supra vero syndromen attulit maxima plenitudinis, &
" paucis interpositis inquit. Cum vero haec signa ad-
" modum evidenter non erunt, veruntamen ve-
" hementia quidem, parum sanguinis fundito :
" Sin minime, minimum : haec ille. How suc-
" cessful so large bleeding may be (though *Augenius*, and

Botalu de ve-
" nix sectione,
c. 5.

Serapion (in-
ter script. de
febr. c. 12.

I.C.Claudinus
Empir. ratio-
nai l. 5. sect. 1.
c. 1. p. 286.

Ranbirus and others condemn it, we may judge by the practise of *Botalu*. To these I add the authority of *Serapion*, which runs thus. " Si haec febris fuerit
" propter causam variolarum, & virtus & etas consentit,
" tunc non aliquid magis iubatidum quam phle-
" botomia venæ. Et si aliquid prohibet phlebotomiam,
" tunc oportet ut administrentur ventosæ. Out of which
it is evident, that the generality of the *Arabians*, were
of a different sentiment from what Doctor *Whitaker*
ascribes unto them: and *Claudinus* is less mistaken
when he (as do many others) avoweth, that The
Arabians universally agree to let Blood in the
Small Pox, upon occasion. Nor is there more of
truth in that which follows in our *Doctor*, viz. that
Their followers have not determined this doubt.
For though two or three may seem refractory still in
the

the World, yet it is not amongst *Physicians*, but amongst them that are not *Physicians* that the doubt is inde- termined. I shall take some pains to undeceive this Age as to the present point.

Gordonius's words are these ; " *In primis si corpus est Plethoricum, aut si sanguis dominatur, aut virtus est fortis, fiat Phlebotomia de mediana, & postea de summitate nasi :* i. e. In the first place, if the body be plethoric, or if the Disease be such as is attended with abundance of blood, or if the Patient be strong, let him bleed first in the middle vein, and afterwards at the Nose.

Petrus Bayrus having repeated the signs of the *Small Pox*, when they are violent, adds : " *His apparentibus statim fac Phlebotomiam copiosam, prius scilicet quam variola ad extra appareant : licet possit fieri etiam in incipientibus apparere, stante mula repletione ; non tamen tunc fiat ita copiosa, sicut ipsis non apparentibus : dicente Avicenna, in caju, Extrahatur sanguis quantitate quæ exiret, hoc est minorer :* i. e. when the *Small Pox* begin with such a vehemence of *symptomes*, presently take from the Patient a large quantity of Blood, before the *Small Pox* begin to come forth : yet may he also be *let blood* after they begin to appear, if there be a great repletion, but yet not in so large a manner as otherwise : for so *Avicenna* directs in the case : and let the Patient bleed in such a quantity as may dry the habit of his body : that is, you may lessen the quantity of the morbidick matter, so to bring them forth to a kind maturation, but not so as to divert Nature from her work.

I shall not trouble my self to repeat the words of others at large ; but refer my Reader to the places cited. *Horatius Augenius*, one of our best Writers upon the *small Pox*, (and who protests he writes nothing in order to its Cure, but what six and forty years

Gordonius :
Lilium Medi-
cina, part. 1.
c. 12. de va-
riolis.

Petrus Bayrus
de pesti in ca-
pite de vario-
la & morbil-
la.

Hor. Augen. de
febr. l.x, c. 9.

dibid.c.3. Experience had convinced him of *to be good*) doth allow, in difficult cases, and when the Disease is somewhat pestilential, that the Patient bleed first at the *Arm*, and then at the *Nose*, by irritating it with *Tarrow*, or *Horse tayl*.

I. C. Claudius

Empir. rati-

on.l.5.lect.1.

c. 1.

Dilectus Lusi-

tans de ve-

næ sectione.

c.xi. Artic.1.

p.145.

Epiphanius

Ferdinandus

caſ Medic.78.

Emil. Campol.

de variolis,

c 413.

Christo. a Vega

de arte med.

L.2.lect.7.c.1.

Lud. Mercatus

de puer.

morb l.2.c.22

Vide etiam

Ludo. Mercat.

de febr.l.7.c 3

& de recto

Medicinal.

præfid.usu.

l. 1. c.4. &

Anton. Ponce

Santacruz' de

impediment:

magn. auxil.

b.3 c.18.

With him agrees the *cantilous* and learned Practitioner *Juleus Cæsar Claudinus*: who doth debate, and determine this doubt : as also doth *Dilectus Lusitanus*, in his Treatise of *Venæ-sectione* : and *Epiphanius Ferdinandus*, and *Æmilius Campolongus*. Neither is it to be questioned, but that this is the common practise of all *Italy*; so that I shall cite no more of that Nation.

In *Spain* 'tis approved of by *Christophorus a Vega*, whose words are these. " *Si vero lacæ fuerint va-*
riolæ, & ab humore siant crassiore, ab initio sanguinem
mittere, si febris adfuerit; sine ipsa vero minime.

And the best of *Writers*, *Ludovicus Mercatus* is thus peremptory in his Resolution. " *De sanguinis*
detractiōne nullus usquam dubitavit, aut id sine ratione
fecit, nisi aut vires sint adeo dejectæ, quod neque mini-
mam, citra majus damnum ferre possint, aut affectus
adeo levis, aut benignus existat, quod satius sit naturæ
committere, quam ipsam infirmare sanguine missō, vel
sanguinis copia adeo parva, quod exquisitiōri viciū im-
stitutione securius rem possit agere quam aliis præsidit,
que licet aliquo modo possint convenire, non subinde
funt ita secura & certa, quod eis prorsus fidendum sit.

i. e. Concerning Blood-letting no man ever did doubt thereof, or if he did, he did it without *any reason*, except the Patient were so weak that he could not *endure it* without greater hazards, or that the *disease* were so mild and benign, that it seemed better to leave all to the strength of Nature, without debilitating any way the sick person, or the redundancy of *blood* and *pec-ant humours* so inconsiderable, that the Cure might be wrought

wrought by a diligent attendance and well-ordered diet, without employing any of those Remedies which how convenient or safe soever, yet (according to that fate which disposeth of all humane affairs) may sometimes have an evil issue, and are not therefore needlessly to be presumed upon.

In Portugal I find *Rodericus a Fonseca* to approve of *Phlebotomy* in this disease: As also *Stephanus Rodericus Castrensis* avoweth its utility upon his own Experience.

I might add others, but that this is the general practise of Spain, is so indisputable, that I should but abuse the patience of my Reader.

I now come to *Germany*, and *Denmark*, where the most learned, and the most eminent Physicians that we hear of, have admitted of this Remedy. The beneficialness thereof was experimented by that famed Practitioner, *Forrestus*. " Solet enim mirifice prodesse in hoc affectu hoc auxilii genus, modo tamen fiat in principio, antequam morbilli aut variolæ egrediantur. i. e. It is usually of marvellous benefit to the Patient, if he bleed before the small Pox or Measles do come forth: Whereupon he did ordinarily begin his Cures therewith, and saith, that undeniably it ought to be so, if all requisite circumstances concurre. *Felix Platerus* (a man of principal esteem in *Switzerland*, and *Germany*) recommends it to our practise, " Sanguinis detracitio per venæ sectionem in brachio facta ab initio, si Synochi ha sunt febris, cu juscunque generis, ad sanguinis accensi, vel simul putridi, vel maligni etiam portionem educendam, causamque sic minuendam, in adulis plurimnm competit. Quæ & infantibus majoribus, cum in minoribus natu non licet, non inutiliter administraretur. Quæ tamen, si jam macule & pustulae eruperint, ne naturæ motus impeditur, omittenda erit. i.e. Bleeding in the Arm,

Rodericus a Fonseca in appen.
ad *Jacchin. de febr. c. 54.* &
Conf. Medic.
l. i. conf. 48.
Steph. Roderic.
Castrens. Quæ ex quibus l. 3.
c. 16.

Forrestus obs.
lib. 6. obs. 47.
in Scholio:
& ibid. obs.
46, 49.

Felix Platerus
l. 2. de cur.
variolar. inter
opera, p. 202.

when it is practised in the beginning, if the Fever be any kind of *Synochus*, arising from the inflammation of the mass of blood, or its being putrefied, or vitiated by any malignity, will be of great benefit to those that are of Age, to lessen the morbid matter, and abate the violence of the cause of the distemper. It might also be done to Children of some bigness (not to little ones) may be profitably. But if the Pox be coming forth it is to be forborn, least it cause them to retire in.

Greg. Horstius
oper. medic.
t. 2. l. 6 in ap-

pend. de varioles : & ibid.
de febr. l. 1.
Q. ult.

I. Dan. Horstius
epist. x.
Sennen. de
febr. l. 4. c. xiii.

Neither is it a common Elogy for this practise, that *Gregorius Horstius* commends, and justifies it. And his learned Son, *Jo. Daniel Horstius* asserts the judgment of his Father. As cautious as *Sennerius* would seem, he only doubts concerning Phlebotomy in Children, not in others.

*Si tamen in etate, quæ
venæ sectionem preferre possit, sanguinis abundantia ve-
næ sectionem posuleat, mox in principio ante quartum
diem, aut sane prius quam variolæ erumpant; dum vires
adhuc constant, & sanguinis tanta copia ad ambitum
corporis confluxit, vena aperienda, ut natura oneris parte
levata, quadruplicatum est facilius vincere possit. Post
quartum autem diem, & ubi maculae erumpere incipiunt,
abstinendum a venæ sectione; in primis si jam æger
melius habere incipiatur, ne materia ad ambitum corporis
tendens ad interiora revocetur. i. e. But if the Age
of the Patient be such as to be able to endure Phlebotomy, and the redundancy of blood be such as to make that
Remedy necessary, a Vein must be opened before the
fourth day, and whilst yet the Small Pox are not come
forth, the strength not being yet impaired, and the
blood so immoderately discharging it self upon the ex-
terior parts of the body: that hereby Nature being
disburthened of a part of what molested her, may the
more easily concoct and subdue the rest. But after
the fourth day, and when they begin to come forth,
Phlebotomy is not to be used, especially if the Patient
seem alleviated, least thereupon the matter be drawn
back*

back which was hastening unto and fixed in the habit
of the body. To these may be added *Baldassar Ti-*
mæus, Physician to the Elector of *Brandenburg*, who
after thirty six years of practise approved this course:
and *J. Petrus Lotichus*: as also the younger *Sebizius*,
now Professor at *Jena*; and *J. Christianus Fromma-*
nus, a Physician in *Saxony*: and *Franciscus Joel*: In
Denmark I find *Bartholinus* to be resolute for it, be-
fore the *Small Pox* do come out: and if they do not
come forth kindly, but that symptomes of an evil pre-
page multiply upon the Patient, he allows a minute
bleeding then, and sayes many have been happily
recovered by these means. And so much for Ger-
many.

In England the paucity of our Writers upon this
subject gives me no opportunity to defend Doctor *Wil-*
lis by the citation of any Book: 'tis enough, that since
the original and first records of the Disease no other
Method than what he pursues, hath been commonly
proposed: that the generality of the world, the wisest
of Physicians, the most able and judicious of our Pro-
fessors principled by *Avicenna*) do approve thereof:
'tis not bare compliance with the *Mode of France*,
but the Dictates of Reason, confirmed by a prosper-
ous success in several to my knowledge: I would fain see
any man justifie the *Rhodomontade* of Doctor *Whita-*
ker, by producing ten Physicians that reject Phlebotomy:
I remember none but *Fracastorius*, *Langius*, *Rolfinckius*,
and *Densinger*, and one or two more, and a company of
old Wives and Nurses. I never yet Phlebotomised any;
yet twas because I either had no exigency for it, or the
Patients were too timorous to admit of it. But were
my own life concerned, I would undergo it: and I
hope the Baconian Philosophers have not so irreco-
vably infatuated this Nation, but that we may come to
be

Baldassar Ti-
mæus col.
medicin. l.8.

c. 29.
I. Petr. Loti-
chim lib. 1.
obs. medic. c.7

obs. 13.
D Sebizius
disp. de vari-
olis ult. qu.4.

L. Crift. Bram-
man. discurs.
medic. sect. 97

103.
Fr. Joel pract.
l.9. sect. 5. § 2

Th. Bartholin.
Cista Medica,
p. 60. Also

Hesperius Her-
cull. medic l.7.
c. 6. and
S. Hespeffer
de morb. cut.
l.2. c. 4.

be undeceived in this point , as well as we have been
in others.

Although it be not my intention to write an *intire*
Tra& about the Small Pox, yet that I may demonstrate
the *Rationableness* of their procedure who do let blood
in the *Small Pox*, 'tis necessary that I acquaint my Reader
with those cases wherein they do apprehend themselves
obliged to act as they do.

In the cure of the *Small Pox*, whensoever a *Physician*
employs his thoughts about *Plebotomy*, he considers the *Feaver* which attends it ; and the *dangers* into which the Patient is likely to fall : and the *strength* he hath to bear them : not to mention those *considerations* which arise from the *general season* of the year, or the *particular malignity* of the Disease at *that time*, or the *idiosyncrasy* or peculiar temperament of the *sick*, or what is *singular to some families*. In the *Small Pox* there happen frequently *three sorts of Feavers* : one in the *beginning*, which usually terminates on the *fourth day*, or when they come forth : Another which begins when the *Small Pox* begin to come to *suppurate* : according to that old saying , *Febris fecit variolas, & variola febrem*. And a third, which either ariseth afresh upon *their coming forth*, or is the continuance of the *primary Feaver*, which if it abate not upon *their eruption*, creates *new cares* and troubles in the *Physician*.

As to the *Feaver* which is antecedent to the *small Pox* : though *sometimes* there be *none* at all : and *sometimes* it be so *gentle* as not to create any *mis-apprehensions* in the *Doctor*, or *Sick* ; yet frequently it happens to be joyned with *putridity*, or *malignity*, or to have something of the *Pest* it self : From all these *circumstances*

cumstances the cure must be varied; nor is it any dis-
paragement for a Physician to act one thing at *one time*
which he doth not *at another*; and to recede from
vulgar Methods in *extraordinary cases*. In some cases
he need not *phlebotomise*, if he see no *violent Fever*,
no pernicious or dangerous symptomes: if it be either
a *Tertian*, or *double Tertian*, or *Synochos simplex*: the
danger seems less: yet is it a *certain observation*, that
oftentimes in the *Small Pox*, the most *hopeful beginnings*
are defeated by *sudden* and *subsequent* accidents: so
that very many of those whose recovery hath been un-
doubted at first, have in the progress and conclusion of
the Disease died.

Hoc primum sciat & consideret,

præ oculis semper habeat prudens & diligens Medicus,

nimium fidendum non esse plurimum in variolis &

morbillis, quantumvis salutaria signa primo accessu ap-

pareant: nam in recessu & inclinatione facilime in

mortem commutantur: taliter est horum morborum frau-

dulentia & conditio. Besides this, it often happens
that a *salubrious* and simple *Synochus* turns to one that
is *putrid*: and then the danger is, least what is intend-
ed by Nature for a *depuration of the Blood*, become *cor-
ruptive*, and ends in the *death of the Patient*. Also it
is frequently seen that the *exorbitant matter* is so *much*,
or Nature so *weak* as not to discharge it into the *habit*
of the body, or there is some *particular imbecility* in the
principal parts, that the Disease seizeth on the *Lungs* so
violently as to exulcerate them in the progress of the
Disease, or so debilitates them that the Patient lan-
guisheth in a *Consumption*; or else it settles in the
Glandules of the Throat, and the Patient dyes of a kind
of *Squinancy*, according to *Avicenna*.

Nam qui ex

variolis moriuntur, inquit Avicenna; plerumque ex an-

gina suffocati pereunt, orta minima inflammatione in

yuttore. Sometimes the matter taketh a wrong
course, so as that a *Flux ensues*, which sometimes be-
cometh *bloody*: and this besals the Patient either be-
fore

*Lud. Moretus
de puer mor-
bis, l. 2. c. 22.*

*Diosc. Amicus
te de vario.
lis, c. 8.*

fore they come out, or a little after they have appeared: or in the declination: in all which cases, 'tis a bad sign: but in the last, commonly mortal.

Glor. Augen. de febr. l. x. c. 8.

" si debet
" *hujusmodi res experientia judicio terminari, hac si-
dem faciet; fluore in declinatione adveniente, etiam si
non sit exulcerations, majorem agrotorum partem mori.*

Sometimes the matter is so acrimonious, that it corrodes the bones, as *Paracelsus* testifies upon his knowledge.

Amb. Paracelsus Chirurg. l. 9. c. 1.

" *Quinetiam animadvertere licet in plerisque hujus morbi malignitate mortuis & dissectis, eum in principi- bus partibus invehi corruptionis impressionem, qua dropis, phthiseos, rawicitatis, asthmatis, dysenterie ulceratis intestinis, ac tandem mortis consecutionem attulerit: prout pustulae pari rabie debaccatae sunt, qua per corporis superficiem furere coenuntur: non enim externas modo partes deturpant, pustularum & ulcerum altius se in carnem defigentrum impressionibus & cicatricibus relicitis, sed & sape movendi facultatem adimunt, arrosis & labefactatis cubiti, carpi, genu & pedum dearticulationibus. Quinetiam multi inde viden- di sensum amiserunt, ut nobilis Do. Guymeneus; alii audiendi, alii olfaciendi, oborta hypersarcosi in meatu sum narium, tum aurium.* There being so great danger in this Malady, I wonder that Doctor Whitaker should ever look upon it as contemptible: saying,

" *This disease of the Small Pox was anciently and generally in the common place of Petit and Puerile diseases; and the Cure of no moment.* It is true that Physicians do usually reckon it amongst the Diseases incident to Children: and they do believe that Children pass it over with less danger than more adult persons: because in them the Humors are not so acrimonious as in others: their habit of body is more lax, and gives the humors a freer course through the flesh, their skin is more perspirable, and their innate heat more vigorous than in others: It is also true, that they do hold that sometimes the Small Pox are so mild, that there

there is little or nothing to be done by the Physician : But 'tis no less true, that from the dayes of *Avicenna* and *Rhases* unto ours, none ever thought or writ, that the Cure was absolutely of no moment. For *Avicenna* ^{*Avicenna de febr. c. 6.*} in his Treatise of the Small Pox represents unto us a great deal of danger in the Disease; and though he grant it is sometimes facile; yet he cautions the Reader sufficiently how malignant, perillous and mortal it is at other times. *Horatius Augenius* and others aver, ^{*Hor. Augenius de febr. l. 9. c. 4, 6,*} that this Ebullition is sometimes such as tends to the depuratiōn and perfectiōn of the blood; and sometimes to its depravatiōn and putrefactiōn: And as they compare the one to the ebullition of Must, by which it is improved unto good Wine, so they compare the other to those effervescenties in Wine when it frets, and degenerates. Neither is Doctor Sydenham less mistaken, when he forbids the Physician to make use of any generique Medicaments, but to leave the whole work to Nature, and to proceed according to that Regimen which he suggests; he representing the disease as facile in itself, and only mortal or dangerous by the errors of the Nurse, or Physician: Whereas it is evident that the Small Pox are at some times accompanied with greater danger and worse Feavers than at other times: and all that difference which is to be seen in the Pox, that they are green, or livid; flat, or high; horny, or more soft; few, or so numerous as to over-run the whole entrails, as well as skin, and therē to run one into another, and flux; this doth not arise always from the miscarriage of the Attendants, but from the malignity and quantity of the morbisick matter; as observation and common reason will inform any man.

Let us therefore judge better of those sage Practitioners, who proposed unto themselves sundry scopes in the cure of this disease: and thought it their prudence to prevent all the dangers imminent or present, by a cure like unto this.

First, They examine the habit of the Patients body, if it abound with blood, or evil humours : the redundancy of the former they conceive may be such, that upon a violent ebullition Nature may not be able to rule it, but either some vessels may break, or the Patient be strangled by a decumbiture of the blood upon the Lungs, or Brain, or a bloody flux ensue, if it take its course that way ; or a bloody urine, if it incline to the Kidneys. The redundancy of evil humors they do apprehend to carry this hazard in it, that it may pervert the whole mass of blood upon the febrile effervescence, and add such a malignity to the morbifick matter in its expulsion, that the evacuation thereof by pustules may not put a period unto that Feaver, but continue or exacerbate it, to the mortal danger of the Patient : such evils they think may easily be prevented by a due method in the beginning ; but in the progress of the Disease, they are either remediless, or not to be cured but with much difficulty. Therefore their first intention is to lessen that plenitude of Blood, and other Humors, which they find in the Patient.

Secondly, They examine the Nature of the distemper, what the Feaver is, whether a simple Synochus, or one that is putrid ; a causos, or continued tertian : They consider the violent symptomes what faculties they effect, or what parts : and according as they see occasion they apply themselves to correct its malignity, or to moderate its fervour ; without indeavouring to extinguish the Feaver.

Thirdly, They consider the danger that the Eyes, Throat, Lungs, Stomach, and Intestines are in, should the Small Pox affect them : they know that if they be driven forth into the habit of the body, and those other parts kept inviolate, there is little of danger

Fuerint ulcera maligna in
faucibus, in aspera arteria, in
esophago, in intestinis sepe-
nmero, quæ hominem non
multo negotio de medio
tolunt. Hor. Augen. de febr.
l. x. c. 2.

danger: but on the contrary, if the humors discharge themselves on them, now all other fears vanished; yet upon the suppuration (which brings a new Feaver) horrible symtomes must ensue in the Stomach, Bowels and Lungs. And therefore they think it ought to be their care to mitifie the humors, and fortifie those parts.

Fourthly, They consider the manner of their eruption; and if they come out kindly, they intermeddle not: If they either come out slowly, and in the mean time create Epileptick and convulsive fits, or other dangerous symptomes, they promote their coming out: and according as they perceive by their colour, and other signs, that they are malignant, they apply themselves to amend those defaults: If they find Nature to exorbitate in their expulsion, and that they come out so thick that there is not sufficient room for them, but that they run one into another: If the Feaver continue, or increase, because that destroyes the due suppuration of the pustules, they apply themselves to moderate the excessiveness of that evacuation, and to correct that Feaver, which is not to be terminated by any new excretion of that kind, but to be cured in a manner as other putrid Feavers are: and in this case all judicious men must allow no greater regard to the Small Pox, than a symptomatical evacuation deserves.

Fifthly, They employ their care in securing such parts as are particularly indangered by their eruption; expedite the maturation of them, if it be to flow, and difficult; binder their regres, and suffer not any recremptions particles again to reincorporate with the blood, and begets a new Feaver, or other dangerous symptome: and in case any new distemper happen (as sometimes a Pleurisie, or the like may do) they provide for the due cure thereof.

These are the common intendments of all rational *Physicians*: these things Doctor *Willis* (whose short discourse of *this disease* contains in a manner all that our best Writers do suggest) doth propose to himself: and whosoever doth ponder well the course of the disease must assent thereunto. Let the Motion be critical; all intelligent men know, that before the *Crisis*, if we perceive any threatening danger, that Nature cannot command the exorbitating hemorrh^s, but that the present *symptomes* are perillous, and the future issue uncertain: If the *Crisis* be immoderate, and not agreeable to our desires; If it bring no alleviation to the Patient, our hands are not bound up, nor are we prohibited to intermeddle even by generous Remedies. As little are we confined by the *Hypothesis* of Doctor *Sydenham*: for, if Nature be inclined to change the state of the blood, yet are we obliged to assist her, if she be too weak, and deficient, or exorbitant: and our providence hath the same liberty to exert it self, that any other principles indulge it in.

I come now to those Means by which *Physicians* principally are said to act: and those are the great Remedies, of vomiting, gentle purges, and bleeding; and to declare the usefulness thereof; 'tis necessary that we consider the *Small Pox* under a twofold notion. As the Feaver precedes; and as those Pustules do accompany it: I think those *Physicians* to have written most discreetly, who divide Feavers into two sorts: viz, *Febres solitariae*, and *Febres comitatae*: these last they distinguish from *symptomatical Feavers*, in that those do succeed others and depend upon them as their Causes: but these others do precede some other distemper, or arise with it, and are either a cause or occasion thereof: and upon the appearance of their companion-disease they cease or abate: such are *Squancies*,

cies, Peripneumonies, Pleurises, the Small Pox, &c.
 Comitatae febres continuæ sunt, quæ aliquem mor-
 bum qui ipsas vel exitavit, vel qui ab illis prodiit, comi-
 tem habent, aliaque præter ea quæ febris solitaria af-
 fert symptomata, a morbo comite prodeuntia, & cum
 febrium accidentibus complicata, febriumque naturam
 aliquando permutantia. In this distinction we are
 freed from those impertinencies which others molest us
 with, as if the concomitant disease were a crisis of the
 other: whereas indeed this concomitancy makes us
 look on them rather as a complication of maladies, than
 any such succession as is feigned; and we are thence
 obliged to consider what indications arise from this
 conjunction: for it is confessed that in these cases the
 primary disease is not terminated, nor altogether to be
 cured in the usual manner, but with a regard to its
 associate: but our care ought to spend it self so, as
 that the primary Feaver may innocently and without
 prejudice to the sick introduce its Associate, and
 that conclude with an happy recovery. To do this we
 consider the nature of the primary Feaver: which is
 in the Small Pox a simple Synochus, or a Synochus pnu-
 tride; and sometimes a Tertian, or double Tertian, or
 some malignant Feaver. These we are so to manage
 that they neither become exorbitant, so as to destroy
 the Patient before the Associate discovers it self, nor
 then become so depraved, violent, or malignant, as to dis-
 turb the subsequent cure: No man can in reason doubt
 but the best and most direct means to moderate the
 primary Feaver is to begin betimes; for then the di-
 stemper is less violent, and Nature least debilitated:
 What we are to do then the course of the Disease best
 teacheth us; in which the most enormous vomitings are
 so far from doing hurt, that they are beneficial to the
 sick: It is therefore manifest that a Physician, who is
 to imitate Nature, may in the beginning (as he sees oc-
 casion,

F. Platens
prax. t. 1. p. 13
de febr. gene.

Hippocr. l. 2.
Aphor. 29.

casion, and upon due pondering of all circumstances) administer a *vomit*: for, it is neither repugnant but congruous to any of those primary Feavers; nor contraindicated by the Associate: For hereby those excrementitious humours are evacuated, which would otherwise in the progress of the disease add to the distemper, producing *Phrenses*, *Sopors*, or other malignant symptomes; also part of the super-abundant turgent matter is exhausted, and the *Lungs* (who are frequently endangered by a *Catarrb* in the beginning) are disburthened: as also the *eruption* of the *Small Pox* is facilitated: Vomits being always held by the *Methodists* amongst those Medicaments which principally relax the habit of the body.

*Z. Bartholinus
de augin.
Epidem. ex-
citat. p. 56.*

In case that there appear urgent Reasons against a *Vomit*: the next thing under consideration, is a *Minorative purge*, whereby the *Stomach* and *Intestines* being cleansed, and part of the Morbifick matter discharged from the *Head*, *Lungs*, and *mass of Blood*, Nature will be better able to overcome and regulate what remains. And herein the Physician is guided by Nature, which oftentimes alleviates the Patient by a slight *Diarrhea* before the *Small Pox* do come forth: Nor is there any danger in such fluxes, as our Practitioners observe: *Si Diarrhea fuerit in principio non nocebit*. And most of them allow a gentle besetting purge in the beginning of this Disease, not doubting thereby but to make the subsequent course of it to be more benign, and safe; for the most turgent urgent bilious and accrimonious humors being carried off together with the promiscuous faculencies of the Intestines; 'tis not easie to be imagined that any dangerous malignity can reside in the *pustules*, or any dysentery or flux ensue in the state or declination of the Disease; at what time it is extremely perillous. I shall not enlarge upon this subject further (it not being my present intention) but refer

*Epidem. Erc
dinandus cat.
medic. 78.*

my

my Reader, for his more particular instruction, to *Horatius Augenius, Ranchinus, Gregorius Horstius, Sennertus* and *Riverius*: and if he desire Experiments for the happy use of *Vomits*, and *Purges*, and evidence that they do not retract the humors from the circumference to the center (Alas ! 'tis not the time of their separation or motion that way !) or impede their eruption, let him consult *Angelus Sala*, and *Forrestus*.

Angel. Sala
ternar. Be.
zoart. c.viii.
Forrestus lib. 5
obs. 49. cum
Scholio.

I come now to the practise of *Pblebotomy*, about which sundry Questions arise : As, Whether it may be administered in the beginning of the Disease ? and After the *Pox* come forth ? In the State ? and Declination ? In all which times I do assert that there may happen such circumstances as may make it necessary : But in the beginning I think it may frequently be done with great convenience.

1. In the beginning of this Disease : that which urgeth is the Feaver and its symptomes , which if it be so violent that the Patient may be indangered before the *Small Pox* do come forth, or so debilitated that Nature may not be able to command them and concoct them by reason of their multitude or virulency (which the extremity of the Feaver, as well as habitual cacoachymy, or the adventitious malignity may create) 'tis prudence in the beginning to prevent those perils , which in a short space will become remediless . If the body be *Plethorical* with either sort of plenitude, 'tis indubitably requisite to bleed : and our case here is like to those cases which possess the *Brewers*, or *Vintners*, who whilst they attend diligently to the depuration and fermentation of their liquors : employ a part of their thoughts upon the preservation of the *Cask*, least it break.

Nor is the present plenitude only to be considered, but the future, which will happen upon the increase of the

Greg. Horstius
de variolis &
morb.

the ebullition and attenuation of the blood, together with the defective transpiration, which alwayes abates proportionably to the greatness of the Feaver: and in case any peril threaten from the violence of the Feaver, there doth not appear any more ready course (in such as are *opus*, or in the beginning are at their height, perhaps there is no other) then to let blood; whereby the redundancy is diminished, the course of the blood diverted from circulating or stagnating in the inward vessels, the habit and texture of the body changed in order to the more facile expulsion of the small Pox, and transpiration promoted, then which nothing contributes more to the alleviation of the first, and prevention of any subsequent Feaver, and malignant putrefaction of the Humors in the Pustules.

Joseph de Me-
dicis apud
Gr. Horst.
t. 5. p. 50.

Quoties
cunque enim corpus ventilatur i& nullo modo transpira-
tio prohibetur, facile putridæ fuligines per poros ex-
halantur, nec cordi communicantur, neque proin sequi-
tur illa febris: unica enim causa legitima & immedia-
ta febris est, prohibita transpiratio; ut etiam illis
qui a limine salutarunt Medicinam, notum est. i. e.
Whensoever the blood is well ventilated, and insensible
transpiration free, whatever noxious and venenate va-
pours are contained in the body, which might other-
wise fly up to the head, and cause incurable Phrenses,
deadly Sopors, and Epileptic fits; or create Lipothy-
mies in the Heart, or difficulty of breathing (which is
a mortal sign in this Disease) in the Lungs, or a Diar-
rhea and Dysentery in the Intestines, or a virulence in
the suppurating Pustules, and corrode even the bones
and ligaments; these vapours exhale by the opened
dores, and the Feaver abates: for any one that knows
never so little in Physick, understands that the sole le-
gitimate and immediate cause of Feavers is
prohibited transpiration: From what hath been
said it is evident, that of all Remedies Phlebotomy is
the most important in the Small Pox, in the first begin-
ning

ning, whether the Feaver be a simple *Synochus*, or one that is putrid and malignant : and 'tis more a wonder that any man should oppose the due administration of it, then that all Europe in a manner should agree to the practise thereof.

Neither is it only to be administred to *allay the plenitude* (which generall occurs in this *Malady*) or to prevent the evils foremention'd; but frequently for *rebulsion*, when the malignant matter begins to affect the *Brain, Stomach, Lungs, Intestines*: For if during the Feaver the Humors seise upon those parts with any violence, the Patient is in apparent danger of death, there being no way to prevent the *suppuration* there; and little hopes that the Patient will survive the *dissenteries*, or (if he do) escape a *Consumption* or *Dropsey* afterwards.

Sunt aliae ita malignæ, ut non solum carnosum genus adoriantur, sed ossa quoque dilatent, & corrumpant, & quandoque interna membra

*Epiphon. Fer-
dinand. cal. 3
medic. 78.*

principalia, ut hydropem generent, & super observavimus puellulum quendam D. Donati Profili nepotem mortuum ex hydropo ob variolas, & morbillos: quandoque vidimus alias consumptos ex asthmate, ob easdem variolas: quandoque vidimus alias diarrhaes & dysenterias confector ex morbillis & variolis, & alias gangrenatos & esthiomenatos.

It is true that Physicians do not always regard the *dissenteries of the brain in this disease*, because albeit they may be very violent in the beginning, yet they afterwards cease of themselves: nor do they appear so highly concerned for the animal, as vital functions: and in such cases great judgment is required in a *Practitioner* rightly to distinguish betwixt what may affright others, and what ought to terrifie him: But in case the first approach be accompanied with a violent Cough, hoarseness, difficulty of breathing, the beginnings of Squinancy from a pustulary fluxion into the Glandules of the Throat, or with swoonings, and perfrigerations of the hand. and feet; He that thinks

*Si est bona vox, & bona respiratio,
spes est intu-
to. ex Avi-
cenna. Epiph.
Ferdinand cal.
medic. 78.*

Phlebotomy ought not to be administered (if other conditions permit) understands not himself, or complies too much with the prejudiciale opinions of the Patient and Relations. The Authority of all Physicians almost justifies him: the Rules of Art direct him to it: the prosperous success which frequently follows thereon imbolden him to it: and Nature her self authenticates the practise by her sovereign example: for it is usual for Patients in the beginning of the Small Pox to bleed at the nose: I have known five or six in one family (adult persons) that bled of themselves eighteen or twenty ounces, with greater benefit: whilst

Epiphanius. Ferdinand. cas.
med. c. 78.

I durst not be allowed to take away eight. " Novimus
plures infantes in principio quibus sanguis in copia ex-
naribus exivit, & bene habuerunt, neque tot tantisque
variolis & morbillis fuerunt afflitti unde multi autu-
marunt, si puer multa sanguinis copia sponte vel arte
exieret, usque ad animi deliquint, qoad vel non variola-
bitur, vel non in tanta copia: nam variola & morbilli
vere sunt morbi a sanguine. With this Author a-

Hor. Augenius
de febr. l. x.
c. 3.

Agrees the most experient Augenius, " Saluberrimum
esse provocare sanguinem exnaribus doenit experientia:
nam quibus sponte effluxit, variolæ pauciores & fal-
briores evenerunt. Vidi bacillus pueros duos, qui ex-
fluore sanguinis e nare dextra tertio die immunes a fe-
bre evaserunt, & quarto die supervenerunt variolæ
paucæ & benignissimæ. I add the words of Diomedes
Amicus, who having recommended the applying of
Leeches, Tarrow, or Horse-tail to the Nose, thereby to
cause a flux of blood, proceeds: " Hæc enim san-
guinis evacuatio a naribus, vel sponte, vel arte facta
deo confort, maxime cum ad sint signa fluxum sanguini-
nis portendentia, (cum tamen non fluxat) ut solo fluxu
isto ægrotantes istos sanatos vidisse Rhaes dicat; &
cum solum præservare a nocturno oculos & alias fa-
ciei partes dixerit Avicenna: que sanguinis evacuatio
ex naribus semper medicum excusat ab omni alia eva-
cuacione:

Diomedes Amicus
de variolis,
c. x.

Rhaes 18.
cont. 8.

*equatione : sicuti facit etiam qui per uterum, vel ha-
-morrhoidas fit, modo fiat cum alleviatione.* The con-
sideration of this so beneficial an effort of Nature made
Augenius and others to direct that after *Phlebotomy* in
the Arm ; the Patient should be forced to bleed at
the right *Nostril* (in relation to the *Liver*) or at
both : and in the cure of *Antonio Borghese*, a Nephew of
Pope *Paulus V.* a Colledge of Physicians at *Rome* did
prescribe *Leeches* to be applyed to his *Nostrils*, and his
recovery was principally ascribed thereunto.

*Philander Co-
latus in de-
die. Marfil.
Cognati super
aph. 22. sect. 1.*

I shall not undertake to prescribe *how much blood may*
be taken away at once : nor *how often Phlebotomy is to*
be repeated in the beginning of the disease : I should
expatiate too much by such a discourse ; the general
Rules are to be found in *Augenius*, *Mercatus*, *Horstius*,
Ranchinus, *Epiphanius Ferdinandus*, &c. and the accom-
modation thereof to *particular cases* doth depend
wholly upon the judgment of the *Physician* employ-
ed ; How *Children* (in whom the Disease, if they
can be ordered) is less dangerous commonly : and how *Men* according to their *different habits of body*,
and other circumstances (it being more *perillous* in
them, their *flesh* being more *solid and tenacious*, their
bodies less perspirable, and their *blood and humors*
more acrimonious) are to be ordered : Whenthe *Lan-*
cet, when *Leeches*, when *Cupping glasses* and *Scarifica-*
tions are to be made use of ; the *wise* do know, and
the *ignorant* may learn, if they will study to improve
by *study* that time which they mis-spend in *censuring*
the prudent actions of their betters.

Before I proceed to the second Question, it will be
convenient to decide that Controversie about *Phlebo-*
tomy, Whether it draw from the *Circumference*
to the *Center*, and may hinder the *erupti-*
on, or cause the *Pustules* to return in, or

subside? That there are some eminent *physicians* who do hold, that *Phlebotomy doth draw the Humors from the Circumference to the Center*, I do grant: and in the case of the *Small Pox*, that it may chance to do so, is the *suspicion and fear of Avicenna and Hollerius*, as well as Doctor *Whitaker*. But why the Doctor should be scrupulous here, who hath so great a regard for the *Ancients*, (though he cite no good *Authors*) is to me a *Miracle*: For besides the *Methodists*, who are more ancient than his *Citations*; the repute of *Galen* and *Aetius* (whom *Septalius* entitles to the Opinion) ought not to have been *supinely contemned*: and the *Authority of many of the Moderns* (which a man that cites *Fernelius* ought not to slight) doth prove unto us that *Phlebotomy doth promote transpiration*, eject the peccant humors to the *Circumference*, and not *revolve them back*: and this is the *Opinion of the learned Septalius, Gregorius Horstius, Joseph de Medicis, Collado, pest. l.5;c.17.*

Greg. Horstius Institut. Medic. disp. 18. co-rion. de vena sect. qu. 7. Joseph de Medicis apud Gr. Horst. t.2. p.52.53. Collado obs. in Hollerius meth. c.93. Botallus de vena sect. c.5. sect. 6. Hippocr. sect. 6 aphor. 25. Septal. de pest. l.5. c.17.

Botallus, and several others. I have said enough to decide this point in the preceding discourse about the *nature and effects of Phlebotomy*: Yet since it seems in this place peculiarly necessary to be again spoken unto, I thus argue thereunto. *If it be true that Bloodletting doth draw the humors from the Circumference to the Center; how is it that Hippocrates, Galen and all the Dogmatists do prescribe Phlebotomy in Pleurisies, and Inflammations of the Liver, and Lungs?* Is this the effect of that *Revulsion*, that the *Humors should flow more inward?* and from the *surface to the center?* Is it upon this sentiment that *Physicians reiterate their Phlebotomies?* or practise them at all in the *Itch, Leprosie, or Erysipelas?* Doth not *Hippocrates caution us against the returning in of an Erysipelas?* Yet is there no man that can rationally condemn bleeding in that Disease? How often do we read the happy effects of this usage in pestilential Diseases after the eruption of the Spots (which *Septalius* tried upon himself; and.

and *Minadous* upon an infinity of Patients) and of *Io. Bapt.*
 the *Parotides* (of which *Riverius* boasteth) of the *Minadous de*
Carbuncles and Botches (the successfullness whereof con-*abusu non*
 verted the other Physicians to adhere unto *Septalinus*, *mittendi*
 in opposition to the timorous *Francastorius*) and even *Riverius*
 of the *Small Pox*, in which *Avicenna* alloweth of *prax. medic.*
 it before their eruption, and sometimes after it? Consider
 the Authors, and the Cases related concerning the
 prosperous issue of Phlebotomy in the *Small Pox*, and
 how speedily they have come forth thereupon; and see if
 it be possible to frame a ground for such sentiments, as
 Doctor Whitaker suggests: I will not here repeat the
 multitude of cases recorded by the French, Italian
 and Spanish Physicians; nor alledge the cases out of
Forrestus: but content myself with the single instance
 of *Heurnius*.

Quin si dyspnæa adfuerit cum ex- *Heurnius in*
anthematisbus, interdum ad Phlebotomiam venimus. *lib.2.aphor.15.*

Ita nobilissime comitissæ hymondanae Franciscæ, Admi-
ralii filiæ, venam pertundi jussi, cum exanthematu non
satis prodirent, idque felici successu. Can we imagine
 that if the proper effect of Phlebotomy to draw in the
 humours, that it should so frequently, nay uni-
 versally, produce so different an operation? or,
 is it not more rational to think that the proper effect
 thereof is to draw from the Center; and that when-
 soever it happens otherwise, 'tis by accident only? Dost
 not Collado argue judiciously, against the generality
 of that Assertion? viz. All Phlebotomy draweth *Collado obs. in:*
 from the Circumference to the Center: when he *Haller. me.*
 reasons thus? *thod. c.93.*

Whatsoever doth draw back the humours from
 the Circumference towards the Center, is noxi-
 ous in the Small Pox.

But some Phlebotomies are not hurtful in
 the Small Pox.

There-

Therefore some Phlebotomies do not retract
the humors from the Surface to the Center of
the Body.

Which Conclusion is contradictory to the uni-
versality of the Proposition aforesaid.

*I hope, I need not inculcate to those of the contrary ten-
tacit that old Rule in Logick :*

Syllogizati non est ex particulari.

Pag. 140.
edit. 2.

Ibid. p. 141.

Ep. dedic.
cl. R. B.

As for Doctor Sydenham, he grants that 'tis most false
for any to say that Phlebotomy (and other evacuations)
binders the eruption of the Small Pox, by introduc-
ing a contrary motion to what Nature intends by the
Circumference ; Since that 'tis commonly seen to hap-
pen quite otherwise, they suddenly coming out
thereupon : and therefore he suggests other Reasons,
but of little validity. "Per hanc evacuationes non tan-
tim ebullitio nimis imminuitur, cuius interim ope par-
tes despumanda accurate secerni debuerunt; verum etiam
illud ipsum subducitur, quod captae secretioni quasi pa-
bulum continenter suppeditaret; unde sapenumero con-
tingit, ut variola primum laudabili impetu crumpentes
(eoque fortasse melius, quod evacuationes jam dictae
praecesserant) paulo post ex improviso quasi repercussae
detumescunt, idque ob eam potissimum causam, quod
materia desit, quæ quasi a tergo præeuentem insequere-
tur, atque agmen clauderet. These are his most im-
portant and persuasive Reasons ! so conformable to
his Observations, that he makes them the Basis in
a manner of his practice ! so powerful, that all that
the Physicians have observed, said, and writ for above
seven hundred years is not worth a straw in compari-

ne neque mole ampla, neque spoliis Authorum (quorum
cineres per me molliter cubent) sit sufferta, tamen
non erit, uti spero, eo nomine tibi minus grata, quippe
qui

qui inter magna quid interfit & tumida non ignoras!
 I have wondered often that his Books should meet with any applauds: and with what confidence he could obtrude upon the World so irrational and absurd a piece; except it were to shew how judicious in framing of Hypothesis, and exact in their observations these Baconian Philosophers are. But, not to disturb the repose of Fr. Bacon, or Bungey (*quorum crieres per me molliter cubent*) all that he proceeds on in the Doctor is that Book about Feavers, amounts to this, that Nature a Con-

I would not
be under-
flood to say

affects a new state and disposition of the Blood; and so jurer.

produceth a Feaver. “ *Febrilem sanguinis commotio-*

De feb. con-
tinuis. p. 5.

“ *nem sape (ne dicam saepius) non alio collicere, quam*

“ *ut ipse se in novum quendam statum, & diathesin immutet.* Well, for discourse sake, I will now allow him this: but I must remind him that he saith the same

of the Small Pox: How then comes it to pass that the Indications are not the same, where the supposi-

tion is the same, and the procedure of Nature the same, by Ebullition and Despumation? Before, he ex-

pressed himself thus; “ *Ita mecum reputo, Indicatio-*

pag. 6.

“ *nes veras, & geminas que in hoc morbo consurgunt, in*

“ *eo versari, ut sanguinis commotio intra modum nature*

“ *proposito congruentem sistatur; ea nimium ratione, ut*

“ *nec hinc plus aquo gliscat, unde periculosa symptomata*

“ *insequi solent, nec illinc nimium torpeat, quo patto vel*

“ *materae morbifice protrusis impeditetur, vel sanguinis*

“ *novum statum effectantis labefactarentur conatus.* We

were then allowed to intermeddle, as we saw occasion, and to assist Nature by Vomits, Purges, and repeated Phlebotomies, in case the Ebullition were so violent, as

that it was incongruous for the affecting that change in

the mass of blood; or on the contrary so defective, as not

to be able to bring it about: But now, when the same

things fall under our debate; the same Ebullition, at-

tended with no less violence and danger (rather much

more) and the like despumation is to be effected, how

come

come the *Indications* to vary, and that our hands are tyed up from prescribing those *Remedies*, which a parity of Reason doth legitimate? If it were not necessary, we were then obliged by our Observator not to buse our selves: but amidst the aforesaid circumstances we might interpose our aid: and why not now? No Reply can be made but this extravagant and intolerable Assertion; that, *In the Small Pox there never can happen any immoderate, or defective Ebullition naturally*; but it must arise from the error of the Physician, Patient, or Attendants. And all the proof of this that I can find amounts to no more, than that some, or many have been recovered by doing nothing in the Small Pox; when Salubrious that oftentimes upon Phlebotomy, and other evacuations practised in the beginning of the Small Pox, though they have come forth well (nay the better for the use thereof) yet in the progress of the disease, they have subsided, and returned in: those antecedent Remedies having either rendered the Ebullition too minute to finish the desputation, or having carried off part of that matter which should have brought up the rear, whereby the forlorn-hope, or want-guard are disappointed behind. Most excellent! But may not I say on the other side, that since we oftentimes see that the Small Pox are preceded by a malignant, pestilential, or putrid Fever (no defaults in any person being to be alledged in the case) and that many (sometimes most) do not recover: that in those difficulties we are exempted from his general Rule, and cannot without betraying our Patients and our own repute, omit those Remedies, and moderate the Ebullition, or correct it? Is it not so apparent that none, but such as prejudice hath rendered blind, and deaf, can deny it, that Nature frequently produceth an effusion of blood at the Nose (or

(or menstrual) in this disease, to the benefit, at least not to the detriment of the infirm? Is it not most notorious in England, that oftentimes people are vomited, purged, and bled, in the beginning, they not suspecting the malady, and yet none of these inconveniences do ensue? Cannot the avowed practise of Italy, France, Spain, Africk, Egypt, High and Low Germany, and of many in our Nation, convince a man that these ill consequences do neither generally nor necessarily follow upon the ill administration of Phlebotomy? So that neither is the Ebullition rendered too minute (which may sometimes be almost insensible) nor doth the Van run away for want of a Rear-guard. If it be so, as'tis undeniable, and our Book-cases make it good, I conceive the Doctors Reasons to be as weak as any were ever alledged, and that whatsoever is the cause of those subsequent evils, the artificial use of Phlebotomy cannot be the proper cause thereof: since nothing is more true, than that old Axiome, *Idem, quatenus idem, semper facit idem.* But here those effects are frequently visible, where Phlebotomy is not used; and do not ensue, as frequently, where it is judiciously used: therefore those effects are not to be ascribed simply to the bleeding of the Patient. 'Tis an imbecillity of ratiocination to erect universal theorems upon a *Sæpenumero*, or what oftentimes happeneth; especially if that oftentimes be counterpoised by almost as many, or more Experiments of a contrary event. Besides, who in Physick ever found out such a Rule, as *Urgency*, or a *Cura co-a* did not absolve the *Practitioner* from its obligation at sometimes? And that is the present case. We do

Nuper, cum 1665 variolæ decumberent filii filie, que, uti præ ceteris sanguine florido rubenti, libenter nonnihil sanguinis subtraxissent prius quam eruptio fieret: sed incerti eventus metu retractus optimum consilium intermis, quod proficuum videbam: Inmittendo enim sanguine non tam annos Medicus numerat, quam vires agrotantis zelinaat, Celsus praecunte. Negligentiam tamen meam vel metum superpedit Natura optato successu & felici variolarum eruptione. Quippe quotquot ex meis decubuerunt, perisque delirantibus, eruptionem variolarum, haemorrhagia narium præcessit, qua sublevata Natura promptius expulit variolas numero plures, sed nulla alia malignitate infestas. Bambolin medic. Dm. dis fert. 9. p. 428, 429.

Vide Vol. 2.
meth. med.
I. 4. c. 2.

Sed maxime notandum est,
exire aliquando variolas,
aut morbillos, ita placide
cum febre, vel sine febre,
ut error sit venam secare.
Conmoda regio est; nullum
accidens urget, neque ex
pulsu, aut alio signo cog-
nosci potest latitans malum.
Quorum siue ulla indica-
tione audet Medicus turbare
crisim? Autem Ponce San-
tacruz, de imped. magn.
auxil. l.3. c.18.

universally grant, and Spain it self will joyn
with Doctor Sydenham, that in the Small
Pox, when either there is no Feaver, or a mild
and salubrious one, and that Nature without
any dangerous symptomes doth expeditely
and congruously carry on the work; We ought
not, or need not to Phlebotomise:
But we do say, some exigencies may happen
(without any intervening error) in
which that practise is legitimate, because then
necessary. I know not how diligent our
Observatour was, when he took notice of

such as miscarried upon Phlebotomy: were the Physicians besetting Artists? did the Patient, and all Attendants faithfully discharge their duty? was there no Malignity superior oftentimes to all Medicines; no individual circumstances, such as commonly frustrate a Cure under the most judicious Methods? I must be informed of this, before I can determine, as our Author intends. Oh! what a misery is much study! and how many scruples is this Doctor Sydenham freed from, by suffering our best Writers to remain untouched, unconsulted!

But I need say no more: and therefore proceed to the second Question.

The second Question is; Whether in the AUGMENT or increase of the Small Pox, it be lawful to let the Patient bleed? For the better understanding hereof, I think it requisite I explain what I mean by the Beginning, Augment, State, and Declination of the Small Pox. I intend by the Beginning all that time which intervenes from the first illness, decumbiture, or Feaver, until the small Pox do begin to appear: this space is uncertain; for commonly it exceeds not three, or four dayes: though I have known it to be much longer before they have appeared.

appeared. And *Zacutus Lufitanus* shall confirm it to any one that doubts the truth of my Observations.

Zacutus Lufitanus, *ian. Medic. princip. hist. l. 2. qu. 2.*

"*Variolæ in die septimo, octavo, undecimo, & duodecimo;*
 " *mo; &, quod plus est, vigesimo sepe apparere solent,*
 " *quando natura præ humorum onere pressa causam morbi siccum citius expellere non potuit.* *Diomedes Amicus Diomedes Amicus de variolis, c. 6.*

faith he had a Souldier at Millaine under cure, who having had *seven fits* of an exquisite *Tertian*, in the end of the last *paroxysme*, the *Small Pox* came forth, and he remained perfectly freed from any *Feaver*, till their *suppuration* occasioned one, which ended in an happy recovery. 'Tis true the *Feaver* preceding the *Small Pox* may have its *distinct times* (which fall also under the consideration of a *Physician*) and sometimes the *Small Pox* are so gentle, that this *distinction* *Horat. Augen. de febr. l. 9. c. 18.* cannot take place: But 'tis not to my present purpose to entreat hereof: I have sufficiently proved that *Phlebotomy* may be admistrered in the beginning: and the number of those that deny that, is very inconsiderable: but in the *Augment* many are more timorous. By the *Augment* I mean all *the time from their first sensible appearance until they swell up, embody, and exchange their red colour for one more white*: during which time commonly the *Feaver* ceaseth, or giveth little of trouble to the Patient: and this extends usually to the *seventh, ninth, and sometimes the eleventh day*: sometimes it happens that the *Pox* arise *one under another*, and then the *Augment* of the former becomes *coincident* with the state of the latter.

It is now here to be debated, whether we may *let blood* in the *Augment* when it is *gentle*, and our *prognostics* *happy*: but in *difficult cases*: as if the *Feaver* be so far from any *alleviation* upon their *appearance*, that it increaseth, and the *symptomes* become more terrible: If the *difficulty of breathing* become *greater*, or continue *vivulent*: If the *throat* become *very sore*, and

be accompanied with a difficulty of swallowing: If the first deliriums persist, and there be danger of a Frenzy, or Convulsions: If the Cough be vehement: If swoonings or vomitings begin, or continue: If a looseness, or bloody flux, or bloody urine ensue: If they come out interruptedly, and disappear after they have come forth: If they come forth of a dangerous colour, or be very hard and horny (as they call it) or interspersed with purple spots: If they come out in such multitudes, that Nature seems oppressed, and incapable of disburthening her self, or ruling them in order to due maturation: If apparent danger threaten the Eyes: In these (and other cases that are perilous) it is controverted, Whether we may let blood? And I am for the Affirmative; supposing that either Phlebotomy hath not been admini-

C. G. s. Medic. stred; or so diminutely, that there is still occasion for it.

1. 3. c. 18. Multa in precipiti periculo rede fiunt, alias omittendo;

Vallisius in Hippocr. sc. &c. I have already alledged the Authority of Avicenna and

2. aph 3. Rhases, and Bayrus, and the practise of Henrnius upon

Ludovic. Mercator. de morb. the Countels of Egmond: I add here, that 'tis ap-

pudor. 1. 2. c. proved of by Vallisius, Mercatur, Paschalius, Fonseca,

22. and the Physicians of Spain: by Horatius Hagenius,

M. I. Paschal. Ceser Claudinus, Epiphanius Ferdinandus, Dilectus Lu-

1. 2. c. x. stianus, and the vu'gar practise of Italy: By Joseph de

H. Augen. de Medicis, Hoeferus, Bartholinus, and many other Physicians

febr. 1 x. c. 3. in high and low Germany: and the happy practise

I.C. Claudia. thereof frequently in this Nation, hath given some

Empir. ratio- credit thereunto. I mention not the French Physicians

nal 1. 5. sc. 1. e. 1. p. 286.

Epiphan. Fer- ans, because their Authority is excepted against in this

dinand. hist. 78. disease: though no Nation (excepting Spain) hath

Dilect. Lust. ever produced better Practitioners, or more judicious

ton. de venæ men than they are. It being manifest then that the

se. c. xi. Art 1. p. 145. number of Physicians which approve the due admi-

Joseph de Me- nistration of Phlebotomy in the Argument of the Dis-

diciū apud Greg. Horst. 2. ease, and after that they begin to appear, is such as may

Hoeferus 1. 7. justifie any prudent Man in the doing thereof; Let us

p. 364. Bartholin. cist. now examine with what success it hath been done.

medic. p. 101. The

The Countess of Egmonds case I have already recited: *Bartholinus* avows the beneficialnes thereof.

" *Sunt tamen qui erumpentibus variolis venam secent,* Th. Bartholini
 " *quando febris intenditur, anxietas, spirandi difficult-* cist. med. pag.
 " *tas, angina, pleuritis, lotium crassum, & rubrum, alia-*
 " *que symptomata apparent, ut detraha humorum portio-*
 " *ne, reliqua facilius superentur. Certe si imperfec-*
 " *prodeant exanthemata, naturae laboranti succurrendum,*
 " *partim parca vena apertione, si copia sanguinis oneret,*
 " *quod multorum felix eventus comprobavit, partime*
 " *sudoriferis, que, ubi malignitatis suspicio, tutius ad*
 " *extrema corporis clinimant ichores.* And *Dilectus Lu-*
sitanus professeith the neglect of it to be an errour :

" *Qua in parte aliquorum Italorum Doctorum error &* Dilect. Lusitan.
 " *timor calumniandus venit, qui dum apparere vident va-* de venæ se-
 " *riolus inviolabile servant præceptum nullo modo san-* elione cap. xi.
 " *guinem evacuare;* & in præsenti casu exceptio facien- Art. 1. p. 146.
 " *da erit, cum multa experientia viderimus in his quibus*
 " *talte evacuatio fuit repugnata, & ante suppurationem*
 " *pueros suffocari, & in multa illarum quantitate etiam*
 " *suppurata. Non enim potest natura tanta regere &*
 " *vincere ulcuscula, & ideo suffocatur, indeque multoties*
 " *pulmonia & alia supervenient accidentia.* 'Tis need-
 less to recite other cases : I proceed to the Reasons of
 the practise ; which though they are easily deduced
 out of the foregoing Treatise, concerning the general
 effects and utility of Pblebotomy, yet may it not seem
 amiss to debate the controversie particularly in this
 place.

It is an *Aphorisme* of Hippocrates, that in the beginning of Diseases a Physician is to administer his principal Remedies : but in the state to supersede : *Curus morbi incipiunt, siquid videbitur movendum, move:* Hippo. sect. 2. aph. 29.
cum vero vigent, quiete agere melius est. And the reason of that *injunction* is, because that in the beginning Nature is rather oppressed by the turbulent and crude hu-
mours,

mours, then as yet debilitated; the temperament of the body is not much vitiated, nor the mass of blood much depraved; nor the Disease highly prevalent. It being most certain, *Circa initia & fines omnia sunt levissima: circa vigores autem vehementissima.* In which *Aphorismes* the word beginning is so used as to include the Augment of the Disease: for he passeth immediately from the Beginning to the State of Diseases. *Id nunc manifeste ex verbis Hippocratis constat, qui principio nominato ad statum translivit, tanquam Augmentum sub principio continuerit. Clarus id cognoscet, quia morbum in tria duntaxat tempora partitur.* And from hence we learn, that the most seasonable time for Phlebotomy is within the time of the Beginning of the Small Pox, yet so as it includes the Augment, and may then judiciously be practised, in case it have been omitted before, or that new emergencies urge us thereunto: for if we delay then to use it, 'twill be too late to administer it, when Nature is more spent, the Blood and Humors more corrupted and perhaps degenerated into a malignity; the disease with all its symptomes more violent. If then after the eruption of the Pustules the Feaver continue, or increase, with evil symptomes; 'tis most evident that we ought to proceed to Phlebotomy, not only to diminish the present plenitude of blood, and surcharge of peccant humors, to allay the vehemence of the present Feaver (by ventilating the blood) open obstructions, relax the texture of the body; but also to prevent future evils, which will after prove remediless. For in case the Feaver continually increase, 'tis indisputable that no proper maturation of the Pox can ensue: the violence thereof interturbing that work, and depraving the expulsed humors so as to destroy the habit of the body, instead of suppurating in the skin: and their eruption is in this case perfectly symptomatical, because they bring no alleviation with them, but add to the danger

*Id. ibid.
aphor. 30.*

*Hier. Thriver.
in Hipp. 1.2.
aphor. 29.*

danger so much as their maturation interferes with the proper cure of the putrid or malignant Feaver : If ever it be true that the expulsion of the small Fox is a Critical motion , 'tis manifest that now they are to be looked on as *judicatoria non judicantia*, as efforts of Nature intending, but not being able to effect her easement ; and consequently they portend either a tedious and perillous sickness, or death. *Omnes excretiones male sunt, quæ non sedant dolorem* ————— *& quæ non judicant, difficile judicium reddunt, atque quæ laedunt in acutis morbis exitium prænunciant.* And were there any danger of retracting the expuls'd matter, as there is not (because neither doth Phlebotomy draw from the Circumference to the Center : nor is it an easie thing to draw back extravasated matter) yet would not the regard thereunto deterre us from this practise ; because in reference to the maturation of the Pustules, the Feaver here assumes the nature of a *Causa prohibens*, or an obstacle and impediment thereunto, which must first be remov'd. The case is hazardous ; but 'tis now we must act with that prudence which obligeth us to attend unto what is most urgent ; though we neglect not other considerations : Nor can any man in his wits doubt but that we ought to recurre unto Phlebotomy (even more than once) Cupping-glasses, and Scarifications, except by declining an uncertain peril we will subject the Patient to one that is certain. Other remedy there is none : and what imports it, if the attempt be hazardous, since the omission is likely to be more fatal & we know not, nay scarce fear that we shall indammage the sick by the remedy ; we are assured to do it, if we forbear : seeing that each moment adds to his jeopardy, and so far incapacitates us to serve him, as it accelerates the state of the Disease ; in which when the distemper is most violent, we are generally obliged to supersede : or if we were not, yet would our care spend it self to no purpose ; for in such

*Proper Alpin.
de præfig.
vita & morte;
l. i. c. ult.*

such Small Pox there is not any declination, nor doth
Hor. Augen. de the Patient survive the State thereof. " " Status an-
scbr. l. 9. c. 18.

" rem [variolarum lethalium] cum omnia in deterio-
rem labuntur dispositionem : exulcerantur subdita
partes, pus educitur maxime fatidum, nigricans, vi-
ride ; subiectum corpus plurimum contraxit ingredinir,
ita ut totum videatur igne ustulatum, virtus imbecilla,
febris interdum magna : atque tunc agrotas moritur.

Neither is this the only case in which a Physician
ought to practise Phlebotomy ; but it may be done
safely and warrantably, if that the Small Pox do not
come out kindly ; but appear, and then retire in again,
or come out so slowly, or evil coloured, as that the Pa-
tient may be in danger to perish during the progress of
the malady. For in the first case, is a certain sign that
Nature is not able to govern those humors in the first
eruption, either because of their malignity, or sur-
charge : and if it be not to be done by her, when
the Disease is not arrived to its heights, nor she
as yet much debilitated : how can we imagine,
but she must fail in the vigour of it ? It is there-
fore requisite that a Physician (duly considering
all circumstances) do proceed to secure the infirm by
a minute, and perhaps iterated blood-letting. For it is
not here as in other putrid or malignant Feavers, in
which we have a greater latitude of practise ; and what
Nature cannot effect by one way of termination, may
be accomplished by another. The concomitant Pox
alter the course of the Feaver, and suffer it to admit of
no other issue, but by a due maturation of the Pustules :
since therefore that Phlebotomy promotes the eruption,
and by altering the texture of the whole body and fa-
cilitating transpiration doth diminish the morbidick
matter, hinder putrefaction, extinguish the Feaver, and
so alleviate Nature, that she is enabled to prosecute
happily her work ; I see no reason, but that it ought to
be administred : and the same considerations do sway
me

me to approve of it in the latter case : for if the Pox appear malignant in their first coming forth , their continuance will prove fatal , if this Remedy be not applied : for we have none so effectual . No Min-
oratives can be used to disburthen part of the humour ; no powerful Cordials : for those, however they seem to yield a present benefit , do in the issue debilitate Nature , dissipate the spirits , retard the maturation , and oftentimes increase the Feaver , and occasion a Phrenitis , or other deadly symptomes . Vescicators are at-
tended with no less jeopardy , not only for that they frequently cause bloody Urines , and exulcerate the Bladder , and procure a vexatious tenasmus , (which I have seen to fall out , when they were applyed in other distempers) but because the ill-conditioned matter being attracted to them , may cause a Gangrene , or otherwise endanger the Patient : upon which account , I do not remember any that ever proposed them in this Disease . 'Tis true , I knew a Person of Honour , who in France was four times blooded pretty largely before their eruption , and then had Pigeons applyed to his face and other places (because they came not forth well) and so was recovered : 'Tis true that Prosper Alpinus doth commend Inunctions with Nitre and Oyl of bitter Almonds to be used once or twice in a day : but besides what Melichius records , the practise being novel in England , and seldome used in Europe , I believe no discreet man will adventure his credit , or the life of the sick thereupon ; but rather acquiesce in the received , warrantable , happy practise of the generality of Physicians .

Prosper Alpin.
de med. meth.
l.5.c.9. p.17.
de medic.
Egypt. l.4.
c. 15.
Melichius ex-
mamement. me-
dic. dist 9 in
Scholio super
Pilulæ deni.
tro.

In case that there be a great redundancy of the mass of blood in the aforesaid cases, so that Nature seems oppressed, and to be so straitened, as not to be able to free her self from the corrupted humours, who can doubt but the Physician hath more reason than

G g otherwise

otherwise to phlebotomise the sick in this time of the Disease? It is a Rule in Physick, That we ought to attend principally in diseases to that which is most urgent; yet so as not to neglect those other considerations which arise from the nature of the Disease. In this last case the regard unto plenitude is most urgent. For if there be so great a Plethora, as that there is danger least the Patient be suffocated, and the natural heat extinguished, which is the supposition of Avicenna, when he says, *Timetur super cum corruptio extremitatis.* And if Phlebotomy either hath been omitted, or not administered as 'twas requisite, who can imagine that Nature will be able to govern and regulate so great a surcharge to the benefit and recovery of the Patient, but that when the humours separate and extravasate, some part will mortifie and spacieate, or the party be suffocated? It is really to be supposed that the sick person will dye within a short time, except Nature alleviate it self by a large efflux of blood at the Nose. It is here as it is in a *Synochus putrida*, (for commonly 'tis a *Synochus putrida* which accompanies the *Small Pox*) in which if either by reason of the relunctancy of the Patient, or ignorance of the Physician, blood-letting be omitted, the case becomes exceeding perillous, except Nature be very strong, or a great flux of blood, or plentiful sweat succeed: as Galen relates in the ninth Book, and fourth Chapter. 'Tis meer folly here to object, that albeit that Phlebotomy be omitted, yet ought we to presume well of the Patient, because the *Small Pox* do come forth: as when sweat appears in a *Synochus*: for there is a great disparity in the cases: The sweat is discharged out of the skin: the *Small Pox* are lodged in the surface of the body, and must there be matured; besides that the *Small Pox* infest also all the inward parts; so that the danger is greater here, than upon the eruption of sweat: Moreover the sweat consists of a more liable and *Ichorous* substance, and

and finds a more facile and certain exiture; but the *Small Pox* are of a grosser substance, and come not forth with equal facility. It is also to be considered, that as a large evacuation by sweat may happily terminate a *synochus*; so, although the Patient do abound with blood, Nature may sometimes so expel and regulate the matter, that the party may avoid the imminent perils: but he that trusts thereunto must well ponder not only how plentifully the Pox come forth, but whether it be proportionate to the exigencies of Nature (for whatever is not such, is minute) and what alleviation insues: not to mention other things. And as when sweat doth not appear in due time, due quantity, with due qualifications, the Patient doth nevertheless dye: So we daily observe it to fall out in the coming forth of the *Small Pox*. And therefore I do assent unto the directions of *Avicenna*, and *Angenius*, that in case of this urgency, Phlebotomy be judiciously made use of: and whatsoever danger may seem to be in it, 'tis prudence to submit thereunto rather than to incurre greater.

Hitherto I have treated of *Phlebotomy* as 'tis an *evacuative* and *relaxing Remedy*; but there is oftentimes occasion for it by way of *Revulsion*, when not only the *Eyes* are in great hazard to be spoiled, or the blood stagnates about the *Heart*, *Lungs*, and *Thorax*: or that the *Small Pox* very much affect the *Stomach*, and *Intestines*, or occasion a *Diarrhoea*, or *Dysentery*: For in these cases, 'tis most probable that the Patient either will not live to the state of the disease, or dye then.

'Tis a received tradition from *Avicenza* downwards, *Diomedes* *Antonius*
cw de vario
ls, c.s. that in case the Patient in the *Small Pox* do breath freely, and suffer no defect in his voice, there is little, or no danger; unless some accident introduce a *Dysentery*: Because that is a sign that the *Throat* and parts relating unto *respiration* are secure. But in case it appear

that the inward parts are infested by the *Pox*, and that *swoonings*, *vomitings*, *difficulty of breathing*, a *soar throat*, and great *hoarsness* trouble the Patient, 'tis most manifest that he ought to be blooded for *revelsion*; least in the state of the Disease, the Pustules coming to maturation, may by their *purulent stench* annoy, or by their *growth* and *inflammation* suffocate Nature, or exulcerate and apostemate the Lungs. It is usually seen that people dye of the *Small Pox* in the State of the Disease (on the sixteenth, seventeenth, nay twentieth day) though they have seemed plentily and kindly to come out: and the reason is (I abstract from all errors) because a due regard hath not been had to those that infested the *inward parts*: for they have exulcerated the *Intestines* and created Fluxes, they have occasioned in their maturation a new and perilous *Feaver*, a *Squinancy*, a *Pleurisie*, and particularly by affecting the membranes of the *Stomach*, they have created *Vomitings* and *Lipothymies*, &c. And this will seem credible to any that by considering what happens in the surface of the body, apprehend what must ensue upon their maturation *Within*: and those *Ignorants* who have admired at these events in the state, and declination, will cease to wonder, when they assume these thoughts of *Physicians*, and weigh attentively the *Augment*, *State* and *Declination* of the *Pustules*.

To conclude this discourse; who hath not seen in the *Augment* of the *Small Pox* large eruptions of blood at the *Nose*, as also *menstruous Fluxes* ordinarily and inordinately to intervene, without any peril; sometimes to the great benefit of the sick? About fourteen years ago I accompanied an eminent Physician to a Patient of his, in whom the *Small Pox* were come out *well coloured*, and *plentifully*, yet did the *Feaver* continue, together with a deliriousness, want of sleep, and rest-

reflexness: to all which a great Hemorrhagy at the Nose (of above fourteen ounces) did put a period: and of the latter case, I had (amongst many others) an happy Instance lately at Warwick.

Instances of the happy success of Phlebotomy in
the Augment of the Small Pox, after they
were come forth.

Q. 7. The illustrious Lord of *Poyrin*, a strong *Botillus de*
young man, was seised with a violent patrid Feaver; *vena sectio-*
ne, c. 5.
on the third day he was taken with a *looseness*, which
resembled what Physicians call a *Diarrhoea*: on the
day following the *Feaver* and *Flax* continued
with the same violence, and a multitude of *red spots*
appeared all over his body, with a little protuberancy:
on the fifth day, all symptomes persisted in the same
violence, or rather encreased, whereupon I being pre-
sent caused him to bleed eighteen ounces; after which
operation all those perillous symptomes did so abate,
that within two dayes there was not any thereof re-
mained.

Q. 8. On the same day that the aforesaid Lord
was let blood, and in the same house, there was a Ser-
vant of Mr. *Barruff*, who was sick of the same distem-
per; but he had no *Flux*: he had been sick four dayes,
and two dayes were passed since the *Small Pox* appear-
ed: He was of the Age of eighteen years. I took
from him a pound of blood; whereupon all his distem-
per left him, and he went about his busines, attending
on his Master, on the day following, which was the
fifth day of his sickness.

Q. 9. Such Phlebotomy did also recover Mr. Cler-
mont from a Feaver, and the *Small Pox*: as also —
Villard, one of the Queens Pages; and another Page

of the Duke of Alencon's, and many others were cured by me in that manner. Also that learned Physician Pietrens told me, that he practised this course with good success upon his own Son.

I come now to the third Question: Whether in the State of the Small Pox Phlebotomy may be administered? I call that the state of the Small Pox, when they are come to their full bigness, and become white, and replenished with suppurated matter; or, in case they are malignant or deadly Pox, I call that the State, when the pustules (being green, blewish, or black) are exulcerated, the subject parts corroded, and a stinking, black or greenish purulency issues. And here I avow that a Physician may sometimes according to the Rules of Art, and with great judgment administer Phlebotomy. 'Tis most true, that I cannot (to my knowledge) defend this practise by the Authority of any one Writer in Physick, except it be J. Frommannus, who finds some cases in which he justifieth it in the State of the Measils. 'Tis also true, that the common Precept amongst us is, not to disturbe Nature in the State, when she is busied most about Concoction; but rather to supersede from the great Remedies. But I have learned from our Masters, that there is scarce any Rule in our Art, the Obligation whereof is not suspended by urgency, and that they conclude us in the ordinary, not enforced procedures: "Necessity is absolved from all Laws; and Wisdome it self prescribes that we should not always take its counsels: it certain she meddles not with the regulation of extremities, nor with the conduct of Despair: she in some encounters dispenseth us from those things, which in others she ordered us. Without offending her, we may cross the fields when there is danger on the right and left, and try whether an excess will not cure us, when other remedies have ill operated; and cast our selves into

I. C. From-
mannus de
vene sect. in
declin. mor-
bill. sect. 104.
Hippocr. Aph.
29. sect. 2.

into the arms of an enemy, when she is no longer able to defend us. I am told by *Valesius*, that although *Diocles*, and *Celsus*, and some others have prohibited *Plebotomy* after the fourth day: and though *Avicenna* professes that *venæ-sæction* being once pretermitted ought not to be resumed: yet both these tenets are erroneous: for though *Plebotomy* be most convenient in the beginning of the Disease, yet ought it not to be excluded in the other times, when occasion requires it. There are few Diseases whose beginning extends not it self beyond the fourth day: and even in the declination oftentimes we may beneficially let blood, for the attemperation of the inward parts, to ventilate the body, and allay its inward fervour: How much more then in the *Augment*, and *State*? Besides, *Galen* himself laughs at those who confine the use of *Plebotomy* within a certain number of dayes.

*Quocunque Gilen. de
et enim die mittendi sanguinis scopos in agorante in-
fangi milione,
veneris, in eo præsidium hoc accipiteto, etiam si vigescimus
ab initio morbi dies fuerit. Quinam vero fuerunt hi
scopi. Mignus morbus, virium robur, excepta etate
puerili, & ambiente non aere admodum calido. In ano-*

ther place he says. There is not any time of a disease in *Gilen. meth.* which you may not bleed; but the sooner it is done, the *l. 9. c. 5.* better. Another says, *Obi magnitudo morbi postulet, & vires permittunt, non solum octavo die, ut Hippocratis Anxiioni, sed & decimo, ac vigesimo, felici successu* *c. 25.* *venam secamus.* This point is excellently prosecuted and illustrated by *Totalius*, to whom I referre our *Experimentatores* for to be satisfied. And I must avow that in other diseases I have never scrupled at this caution, as others, but practised it with success in the State, and sometimes Declination. And why we may not do it in this Disease is the present Question. It is certain that in the Small Pox at this time, there happeneth sometimes a Strangulatory

B. tollus de venæ sect. c. 22.
Concerning Bleeding in the Augment, Decline-
tion of a purid Fever, see
Coffar Braco Resolut Medic. p. 4 disp. 1. sect. 7. resol.
lut. 8, 9, 10.

d. temper

distemper or *Squinancy*, sometimes a *Pleurise*; sometimes a *Diarrhaea* or *Dysentery*: sometimes an immoderate Flux of the *Menstrua*: In all these cases 'twere great *indiscretion*, if not *ignorance*, to omit *Phlebotomy*: If any of them can be disputed, 'tis that of a *Diarrhaea* and *Dysentery*: and yet that is so vindicated by *Eotillus*, and *Prosper Alpinus*, (not to mention others) and attested unto by a successful *Experience*, that 'tis no longer a Controversie. I have already shewed that *Phlebotomy* doth not draw back the *expelled* matter: but promoteth *transpiration*, which is impeded by the maturation of the *Pox*, during the *State*: it *ventilateth* the blood, hindereth further *putrefaction*, and diminisheth that *plenitude*, which, whatever it be, is too much for *debilitated Nature* to govern: it revelleth the *impacted humours*, or such as are flowing to any *determinate part*: so that not only in the *abovesaid cases*; but if a new *Fever* arise then, or any danger threaten the Patient in the *declination* (both which cases often occurre) I do not see why it *may not* (or *ought not*) to be done, whatever the *peril* be that *may happen thereupon*. Few there are but have so much *strength*, as to bear a *small evacuation by blood-letting*: and he is unacquainted with his *profession*, who hath not seen *prodigious effets* arise from a *minute Phlebotomy*. Our Writers do sufficiently explain the *signs* by which we are to be assured, *whether the Patient can bear Phlebotomy*; and in *what quantity*: which *conjectures* if they be not *duly pondered*, 'tis the default of the *Physician*, not of the *practise*, when any *sinister event* doth ensue. And therefore I can only recommend to the World *this caution*, that they make use not of such Practitioners as talk most, and pretend to *new Reasons*, *Methods*, and *Medicaments*; but of those who best understand the old *Diagnistics*, *Prognostics*, *Methods* and *Medicaments*, in order to a *cure*: and have from more than one or two Books

Bot. Tav. c. 5.
Prosper Alpi-
nus de med.
Agypt. l. 2.
c. 7.

Books informed themselves of the *history of Physick*, as it relates to *particular cases*, and by a diligent attendance on their practise observed the truth of what they have read, and learned to accommodate their Rules to each individual. Could a man ocularly demonstrate all the curiosities of *Malpighius* by the best Microscopes, or manifest the *Ductus rorifer* of *De Bils* unto any Spectator: nay, what if he could make the volatile *Salt of Tartar*, or the *Helmontian tincture of Amber*, or even the *Philosopher's stone*, what is this to practise? How much less are they qualified, who can alledge nothing for themselves then that they are enrolled in the *society of the Rosicrucians*; that so many men extol them, who are obliged to magnifie (justly or undeservedly) all of their number; and that they are good *Wits*, *ingenious Drolls*, Masters of some *Mathematical and Mechanical knowledge*? As to the point of *Concoction*, that tis not to be hindered; In the *Small Pox*, if they be *salubrious*, this consideration is overswayed by present *Urgency*; and if it were not, yet would that repugne only to a profuse *evacuation*; and *contra-indicate* no more, then doth the regard unto the *strength of the Patient*: a minute and partite *Phlebotomy* doth not impede any *concoction*; as our book *cases*, and *daily practise* sheweth: And in case the *Small Pox* be *perillous* or *deadly*, 'tis most certain that there is either *no concoction* at all, or so *imperfect* a one, that it doth not at all oblige the *Physician* to supersede, but rather to proceed hereunto, except he be timorous and unwilling to disparage so *generous a Remedy*, or the *Patient* and *Attendants* be averse from it. Neither of which regards are so authentick as to derogate from the attempts of those who will not abandon their *Patients* to the *uncertain prognostics of acute diseases*: however they may in some sort excuse those that take a contrary course.

The last Question is, Whether in the declination of the Disease a Physician may practise Phlebotomy? I call that the *Declination of the small Pox*, when the matter in the *pustules* is condensed into Scabs, and they dry up, and the *Epidemis* with them doth pill off, leaving *impressions or marks* in the Skin.

Hor. Augen. de febr. l. 9. c. 8.
Cisfar Bravo resolut. med. part. 2. disp. 3.
tesol. viii.

This Question doth not relate unto the mortal Pox, for they have no declination: but to such as are *salubrious*, and though they may have been accompanied with dangerous *symptomes*, yet are now in an *hopeful way of recovery*. Or if we must allow a Declination in the *pernicious malignant Small Pox*, it can be only one that is *uncertain and fallacious*; for when any Patient feels an *unexpected alleviation*, and such is grounded upon *no reason*, there is no trust to be placed

Hippocr. aph. 27. sect. 2.

Iis qua non secundum rationem sublevant,
non oportet fidere: neque terreri multum, ob mala qua
præter rationem sunt: pleraque enim horum sunt in-
firma, neque diu manere atque durare consueverunt: In this time, I say, there may happen such cases as require *Phlebotomy*, and in which it ought to be practised. 'Tis

Hor. Augen. de febr. l. 9. c. 8.

observed that a *Flux in the declination of the Small Pox* is generally mortal, although it be not accompanied with a *Dysentery* or exulceration of the *Gutts*. It is no *critical evacuation*, because *such* happen not at *that time*: and because it befalleth the Patient in the most *unseasonable time* of the Disease, when Nature is most *debilitated* with the precedent Disease, and ought rather to testifie signs of *strength*, then of *further inc-*
bility: it enforceth us to employ all those cares which a *symptomatical evacuation* doth call for: and in this case, since *purging* is dangerous, and *astringents* full of *hazard*, there seems no way so *safe* as *Phlebotomy* duly administered. It may also happen that the Patient fall into a *Pleurise*: Thus in the case of *Frommannus*, in the *declination of the Measles*, the Gentlewoman fell into a *Pleurise*, which he indeavoured to cure by

by Phlebotomy, and was defended in the practise by the best Physicians in Germany.

The Reasons which have been urged already in the other times will many of them justifie the Practitioner in this : and nothing is more certain in Physick, than that the use of Phlebotomy is not indicated by the time of the Disease, or contraindicated by any number of dayes, but by other motives : and that whensoever it is necessary upon any urgency, nothing but want of strength doth repugne thereunto.

It may perhaps be demanded, Whether upon the declination of the Small Pox, if there be any danger of an Asthma or Consumption to be contracted, it be safe to let blood, or in order to better convalescency ?

I profess it may safely and prudently be done for Revulsion, before the humours be more radicated and settled there, and the Disease become incurable : for this is an infallible sign that the Disease is not well terminated : and then those Rules which oblige us not to intermeddle with any perfect Crisis, or indication, are infirm, conclude us not. Oftentimes we see Rheumatismes, and Botches to ensue, and they shew that all the morbidick matter is not ejected : Besides, in order to a better convalescence, if Phlebotomy have been omitted in the beginning, and that the recovery is likely to be slow, I think (and 'tis said to be the judgment of Avicenna) that it may be done : and I have seen it practised with a much more happy success than ever I saw Purge given in that time : But in this last case I referre it to every mans judgment to act as he please ; and request only that they would not condemn others of a different practise from what they follow.

After all this discourse of bleeding in the Small Pox, I must conclude with this intimation, that in sundry cases, and some habits of body, 'tis possible that Phlebo-

*Prosper Alpi-
nus de medic
Ægypti. l. 3.*

tomy may be supplied by Cupping-glasses and Scarification: and I profess, that were the Scarification of the Ægyptians (mentioned by *Prosper Alpinus*, and frequently used amongst the Ancients) admitted into our practise, I should frequently prefer them before any Phlebotomy: Being in *Jamaica* I observed that the Spanish Negroes there did much use them: and during my sickness of the Colick bilious, I had the curiosity to have them tryed upon me in the beginning. I observed that they were as indolent as *Prosper Alpinus* and *Mannus* do relate them to be: but no blood almost ensued therupon: whence they prefaged to me a long and violent sickness; saying, that all the water of my blood was translated out of the veins into my bowels: yet I have seen them to extract one from another a pound, or more, as they pleased.

But I find my self wearied with the prosecution of this Letter; and the sickliness of the season permits me not leisure to carry on the debate unto the *Scri-*

vey; But whosoever examines attentively that disease, will be easily satisfied that it may be beneficial, and oftentimes absolutely necessary to the cure thereof. In those Countries where it is most frequent, and where the Climate bears a great correspondence with ours, this is the practise: as you may see in *Forrestus*: I add the Authority of *Claudinus*: *Joel*, (who prescribes the repeating of Phlebotomy at least three times) *Rembertus Dodonaeus*: *Severinus Eugalenus*: *Balthasar Brunerus*: *Henricus Brueanus*: *Baldassar Timaeus*, (who also reiterates bleeding several times) *Platerus*: *Sennertus*: *Baldwinus Ronseus*: *Jo. Wierus*: *Salomon Albertus*: *Matth. Martinus*: *Gregor Horstius*: *Valentinus Andreas Moltenbroccius*:

Forrestus l. 20. obs. xi. xii.
Claudinus Emperic. ration.
l. 3. sect. 3. tract. 4. c. 5.
Joel pract. l. 2. sect. 5. §. 4.
R. Dodonaeus obs. med c 33.
Eugalen. de scorbuto, p 152.
151.
B. Brunerus (sub finem *Eugalei*) & *H. Brueanus* ibid.
Baldassar Timaeus cal. medic.
l. 3. cal. 39.
Platerus prax. t. 3. p 431.
Sennertus de scorbuto, c. 7.
B. Ronseus de scorbut. c. 8.
Wierus in curat. scorbutum.
Salomon Albertus de scorbut. § 240, &c.
M. Martinus, sect. 145, &c.
Gregor Horstius de scorbuto
exercit. 2. sect. xi.
Mollenbroccius de varis c. 8.
§c. 13.

lenbroccius: and the *Colledge of Physicians at Copenhagen* (in their advice for the *Scurvey*, published by *Bartolinus*) I might add others to this *Catalogue*, but that 'twere needless. 'Tis true, that in the *Scurvey* many do not bear well large *Phlebotomy*; but that is not the Question: 'tis enough that they *minute venæ-section*, and that *reiterated*, doth agree well with them, and is oftentimes so necessary to the *cure*, that the omission thereof doth frustrate the most *efficacious Medicaments*. The Disease generally ariseth from an *obstipation of the Pores*, and such an alteration in the texture of the body as the *Aethodists* would bring under *Adstringition*: and therefore it seldom occurreth in *hot Countries*, except the *wind* suddenly change into a *cold quarter*: and a multitude of Cures are recorded wherein *Phlebotomy* hath been the *leading Remedy*. The sick do frequently bleed at the *Nose*, and *Em-rods*, &c. and since in distempers of the *Spleen* I find *Phlebotomy* commended, 'tis not to be denied in *this case*, without some special *contra-indicant*, which I am not yet acquainted with.

I think I have in the *precedent discourse* enervated all that *M. N.* hath maliciously and ignorantly suggested against *Phlebotomy*: neither do I know one passage in him that can raise any *scruple* in the breast of a *judicious person*: but I must particularly caution him not to give too much credit to the *dotages* of *Thonerus*, a man of *little note* in his *own Countrey*; nor to go about to *delude* the World with Fables, as if the *Northern Climates* did not suit well with *Phlebotomy*: whereas it is notorious that no *Nations* do bleed more largely, nor more frequently than *they*: I will not insist on what they do in their *natural or artificial Bathes*, with *Cupping-glasses* and *Scarifications*, whereby they extract *many ounces* frequently every year; they applying *ten, or fifteen Cupping-glasses*, with *Scarifications*, which sometimes they repeat twice in one hour.

*Bartolin. cist.
medic. p. 505.*

*Th. Jordan. de
luc. orav.
p. 13.*

As.

Asto Phlebotomy, in Denmark nothing is more common than whensoever the Almanack recommends bleeding, for every man almost to step into the Barberisshop, and having bled, to go about his businels: which custom though Bartholinus condemn, yet doth it evince the general use thereof in time of health: and who can doubt but that they who bear it so well, whilest free from any Disease but a tincture of the Scurvey: might endure it in sickness? did not a prurile fear in the Patient, or ignorance in the Physician, hinder them.

*Th. Bartholinus
medic. Dan.
dissert. 9.
p. 431, 432.*

Adultiiores alii in venarum apertione nimis sunt profusi vel audaces, quippe visa fascia rubente ante ædes Chirurgorum appensa, ex Calendariorum signis dependentium, statim sine alia corporum præparatione in sella officinæ considunt brachium sine delectu pertundendum offerunt; & peracta operazione vel itineri se committant, aliisque negotiis conficiendis, vel vini modum eibunt: cumulati errores acris censura digni sunt: sed verba perdere nolo, quia Æthiopem me lavare scio. Nonendum tamen duxi, Scorbutica nostra corpora maxima indigere præparatione antequam generoso isti remedio subjiciantur. If letting of blood were so pernicious in the Scurvey, 'twere impossible in so general a practise but the inconvenience would be discovered: and the people reclaimed from that inveterate vulgar custom of Switzerland; he that blameth it, doth thus describe.

*Wepferius de
apoplexia hi-
stor. 3. p. 12.*

Solent nostrates, Ruricole in primis, ter quaterve in anno venæsectiones usurpare, & quolibet vice duas, quandoque tres, non raro quatuor venas pertundendas curant; emitunt sœpe binas sanguinis libras: Nulla cura est vel temperamenti, vel sexus, vel ætatis: Videntur quandoque gravidae, quæ bis terve gestationis tempore sanguinem vena sedæfundunt, nec etiam partui vicinæ a venæsectione sibi temperant, persuasæ salubrissimum puerperium agi. Vidi senes ocluungenarios hoc remedii genus expertos: nec sanguine fuso admodum solliciti sunt, quaratione inanitate

venæ

• *venæ prestantiore sanguine replenda sint, frequenter*
 • *enim statim ac secunda vena est, & cibo & potu nimio*
 • *corpus inficiunt.* I have not read of the like pra-
 • *elises in France, Spain, or Italy: Nay, 'tis in Germany,*
 that for healths sake very old men bleed largely twice
 each year: instance whereof are given by *Faber* in his
 Notes upon the Mexican Herbal. " Reverenda ca- Rofline. me.
 nitie, & septuaginta annorum decursu venerabili p̄e thod. medic.
 fuli Jenensi Johanni Majori plethorico salutaris erat special. l 4.
 sanguinis per venam secundam missio. Neque ingraves
 cente etate ab ea erat alienus. Attingebat annum 89.
 senili confessus marasmo. Out of which 'tis evident,
 that whatsoever the German practise be in Diseases,
 'tis not their Reason, but superstition and imaginary
 fear that makes them to decline to bleed therein:
 Nor do I find the relations of *M. N.* to be consonant
 to the usage of the German Physicians, except you will
 judge of them by the adherents of *Helmont* and *Pa-*
racelsus. I might except against *Thonerus*, that in his
Appendix he professeth that he doth not absolutely
reject Phlebotomy even in malignant Feavers: and as
good, if not a better Physician than he doth give this
account, in opposition to him: " Experiens testa. Io. Dan. Herst.
tur quod non solum in febribus his, sed & in vi- in ob. & exp. p. 54.
riolis & morbillis, venæsecatio in initio adhibita ep. x p. 54.
cor humoribus non replet, sed roboret, ut expelle-
re possit sufficienter variolas, Morbillos & Pe-
techias.

But I find my self to exceed the bounds of a Letter; but I hope you will pardon the length of it, since it was an effect of my compliance with your desires: and if I have not fully answered them, nor polished my Discourses as they might otherwise have been, be pleased to consider the shortness of the time allotted unto me, the great distraction with which I write,

write, and the multiplicity of controversies I have in-
treated on, and the multitude of books which I found
my self obliged to consult, and transcribe passages out
of; and then I doubt not but I shall obtain your par-
don, whereunto that I may have the more colourable
title, I avow my self to be

*Warwick April 3
1671*

Your most humble and

devoted Servant

Henry Stubbe.

Passages

Passages to be added.

VHere I speak concerning *Pestis*, that though we agree in the same *General Nature* for the most part, yet do they seldom or never appear to be of the same *species*, so as to be cured by the same *Method* and *Medicaments*: because I find some so ignorant as to scruple thereat, I add here the testimony of *Felix Platerus* the renowned *Physician of Basl*, who lived amidst seven Plagues.

Felix Platerus prax. t. 2. p. 69. de febr. causis.

" *Venenum pestilens ejusdem naturae minime esse, sed diversae, effectibus illius tantopere differentes, qui corporis affecti constitutionis solius causa, non sic variare possent, ostendunt. Cum aliqua regerer pestis, quæ sine discrimine in omnes vel plerosque se viciat: alia vero paucos tantum invadat: alia quæ quotquot tetigerit, interficiat, magnamque stragem edat: alia, qua correptorum multi sanantur: verum quidnam in veneno latens illius varietatis causa sit, atque unde proficiatur, uti & in ceteris venenis, describi minime potest.*

The same is averred by *Joseph de Medicis a Candiot*, who had seen many *Plagues* in *Greece* and *Turky*, in *Egypt* and *Palestine*, in *Tartary*, *Valachia*, *Transsylvania*, *Russia*, *Poland*, *Lithuania*, *Prussia*, *Denmark*, *Saxony*, *Holland*, *Germany*, *Bohemia*, &c. and never declined to visit the sick.

I i

Joseph

*Joseph de Medicis Cretenis inter opera Gregorii
Horstii t. 2. l. 1. de lebribus, pag. 46.*

" Secundum, Affero unamquamque pestem vel morbum pestilentem, propriam habere naturam & peculiaria accidentia concomitantia vel inseparabilia, neque ejusdem speciei esse omnes pestilentes morbos, ut etiam plures & diversae sunt species venenorum.

" Tertium, Ut unumquodque venenorum, vel assumptum vel injectum, vel admotum propria sequuntur accidentia (symptomata supervenientia Medici appellant) & proinde peculiaria requirit antidota & alexipharmacaz; ita unamquamque pestem habere propria symptomata, & proinde indigere propriis praesidiis: quod Axioma non advertentes vulgares & trilobares Medici, eandam herbam v. gr. Tormentillam vel Scorzoneram, quam quondam aliquis in bello Trojano longe alia peste affectus cum utilitate adhibuerat, tanquam Catholicum Alexipharmacum, ac si esset Theriaca, in omnibusque generis, regionis, & faculi peste, indiscriminatim, omni etati, & sexui approbat, exhibent & cum magno vita discrimine usurpant.

The same Author in that most excellent discourse of his, (which contains the result of those thoughts which forty years practise had created in him) asserts Phlebotomy in the Plague, Spotted Fever, and Small Pox: and concludes his discourse with this Relation,

Ibid. pag. 57.

" Unicam Historiolam placet hic afferre, quod mihi ipsi evenit & per hanc breviter narrare. Anno 1629. Amsterdam (ubi aliquot annos publica stipendiata vitam transi) pestis grassabatur, primo quidem solos in panperes & egenos lacte & caseo visitantes, sed postea

postea Autumne tempore. enormiter ferociebat; & ple-
 bem & patritios indifferenter invadebat saevissimeque
 depopulabatur, adeo ut singulis diebus trecenti vel qua-
 dringenti deficerent: Nemo mibi nec aliis phlebotomi-
 am consulentibus annohebat (erant vero tunc tempore ibi
 magni nominis Medici ex natione Lusitana, præsertim
 Lacutus vir eruditus insignissimus, & multa experien-
 tia clara) sic misere multa hominum millia peribant:
 sunt enim Belgæ omnes natura diuotissimi, i. e. sanguinem
 mitteundi timidi tanto magis tempore pestis, in quo ipsi
 suæ gentis Medici phlebotomiam detestabantur; alii
 quibus sanguis & naribus ubertim fluens plurimum con-
 ferebat, ut etiam bubones erumpentes in emundoribus co-
 piösam sanie eructantes, absque periculo infirmos esse,
 declarabant. Plurimis in gutture siebant inflammatio-
 nes, quibus neque venarum sellio sub lingua, neque gar-
 garizationes vel cataplasma ullum emolumentum affe-
 rebant, ante enim maturationem strangulabantur. Ego
 vero cum eadem lue me graviter oppressum & improba
 angina sere enecatum viderem, quod mibi fuit vere no-
 num & inopinabile, cum nunquam peste fuerim infec-
 tus, et si audenter eadem lue infectos semper visitaverim,
 sed incolumen me conservaverim, tertio vel quarto die
 (tentaveram prius multa media & praesidia an possem a
 tanto malo liberari) jussi venam medianam dextri cu-
 biti mibi secari, & sanguinis sesquilibram mitti, a
 qua cum nihil detrimenti, vel virium languorem perec-
 pissem, (quamvis neque etiam morbi remissionem) se-
 quenti die tantundem ex altero brachio exhausti impe-
 ritavi: quæ solo praesidio, deinde non abnerente, totum vi-
 rulentiam e corpore emisi, & breviter me a terrica peste
 expediri, atque hostem jugulum percutem, plumbeo
 (ut dicunt) gladio jugulavi: quod filature Addicca-
 mentum plurimi poscia adhibentes atque mea vestigia
 sequentes, scilicet sanguinis missionem celebrantes, ve-
 re e mortis fauibus erupti & vindicati sunt.

In the account of the Small Pox I omitted the opinion of *Franciscus Oswaldus Grembs*, a German Physician of good note, and great admirer of *Van Helmont*, who yet allows of bleeding, in some cases, in the Small Pox. His words are these.

Fr. Oswaldus Grembs: Arbor hominis integra & ruinosa, l. 2. c. 3. de febr. malign.

" The danger of the Small Pox doth consist in two cases : First, if Nature move the hot and vicious humors, and is not able through *debility*, or their *tenuousness*, or the *dense habit* of the body, to expel them : and then the Disease becomes deadly, the humours recurring upon the Heart and Vitals : Secondly, if Nature do protrude them forth, and is not afterwards able to regulate them by reason of their multitude, or malignity, but that the Feaver becomes more malignant than at first, and either dispatcheth the sick, or destroyes some particular parts with a most fætid corruption therof. There are four Indications for the cure of the Small Pox : The first is to evacuate what is redundant : The second is to prosecute the emotions of Nature : The third is to restrain the venenateness of the Disease : The fourth is to secure some particular parts. And because the Feaver which goes along with the Small Pox is a *Synochus*, it requires Phlebotomy ; here is no room for purging. In Children Scarification in the Armes, calf of the Leg, and Nostrils, or Horse-leeches applyed to the Back, Breech, or Thighs, may be used instead of *venesection*, when the Small Pox do not come forth. If the Pox do come forth kindly in the beginning, none of these things are to be practised. In grown people a minute Phlebotomy is to be practised after the first or second day only, when the Humors are protruded, 'tis dangerous (for it draws in the Humours) except

except some new accident, as a *Pleurise*, does render it necessary. When they are coming forth Nature is to be aided with *Frissons*, and Alexipharmacal Cordials, as *Bezoar*, *Unicorns-horn*, *Elephantum de Gemmis*, &c.

A noble Lady of the age of fourteen years fell sick, and bled at the Nose, she had a nauseousness at Stomach, and great pains in her back : the Physicians being sent for, a Clyster was proposed of Broth with Cassia, it came away without any operation : her pains and Fever increased, and certain spots appeared behind her Ears, which portended the *Small Pox* : one of the Physicians commended *Blood letting*, as the most suitable remedy for a great disease, and not inconsistent with her years and strength, especially since she was plethorical; hereby, he said, the blood being diminished, the vessels would be less distended, the malignity repressed, and pains mitigated : But so it happens frequently, that we cannot embrace the most obvious counsils, whether it be an imbecillity in our minds, which being distracted betwixt hope and fear, and sollicitous about the future, forgets the present urgency : or whether it be the method of Providence, which to effect its designs transports us besides our selves : The rest of the Physicians seemed astonished at the proposal, and neither assenting, nor dissenting, proceeded only to insinuate the peril of that operation : But, that they might seem to do something, they proposed an anodyne Fomentation to mitigate her pains, which having continued ten hours, produced no benefit : The ensuing night she was very restless, and on the morning her strength began to be sensibly impaired : thereat the Physicians were much troubled, and considering the present exigency, they gave her a Cordial of *Bezoar* and the species de *Hyacintho*: it was not given sooner, because there was amongst the number one who was

was extreamly averse from giving any Cordials in the
 Small Pox, to bring them forth, as if thereby the hu-
 mours were exasperated, the ebullition rendered too
 violent, and the Pustules protruded in so great an
 excess as to strangle the Patient, he said that Nature
 understood her own work, and could do it best, that
 she was to be left to her self, and needed no incen-
 tives: And by these suggestions he intrigrued the
 determinations of the Physicians, so as that no Cor-
 dial or Alexipharmaccon was given sooner. The Pa-
 tient having taken some of the aforesaid *Cordial*, and
 afterwards avoided a *great deal of blood* by Urine:
 which yet some suspected to be a *Menstruous excre-
 tion*: a little after she vomited up a *great deal of
 blood*: this same took to be a *Critical effort of Na-
 ture*, which had alleviated the violent ebullition of
 the blood in the greater vessels by discharging a part
 thereof at the Mouth and ordinary passages: in the
 mean space, the *malignity* of the Disease prevailed
 above the strength of Nature, the *whole mass of blood*
 being vitiated, and 'twas a miserable sight to behold
 the poor Lady as it were *drowned in her own blood*, and
 thus destroyed: all her back was full of large *livid
 settling of blood*, as if she had been bruised or whip-
 ped with cords; and being dead her body was open-
 ed on the same day, all her Bowels were found, the
 Liver in no default, only the Lungs were blackish
 through the adustion of the blood in the Disease.

Grembi doth
 there defend
 the use of
 Chylens by
 practical histo-
 ries: and so
 doth Agerinus
 and many
 others: and I
 have known
 them used
 without any
 And now the Physicians quarrelled one with ano-
 ther; one blamed the *Clyster*, which impeded the
 course of Nature, and retracted the humours in-
 wards, whose tendency was to the habit of the bo-
 dy: Others censured the Fomentation, which though
 anodyne, might close the *Pores*, and give occasion to
 the *bloody urine*, by repercussion of the pustulary
 matter. Thus one Physician inveighed against the
 errors of the rest; whilst indeed *all of them ought
 privately*

privately to confess, that their great failour was in
 omitting Phlebotomy, and that this was the
 cause of her death. Thus Physicians oftentimes
 occasion the death of their Patients, by not doing
 what they should, and not only by over-acting : this
 last is the default of those who attend on the sick,
 and first try their own pretended Experiments, then
 have recourse to the receipts of the populace, or pre-
 scriptions of some practising Ladies, and thus by do-
 ing what they ought not, they most officiously kill the
 sick, and prevent the seasonable advise of wise Phys-
 cians, who ought to have been consulted at first.
 These kind of persons are in as much default as those
 timorous and cautious Doctors, who dare not admi-
 nister those Remedies which are necessary in acute
 diseases, but by neglecting their Patients, suffer the
 Disease to prevail over the vital faculties, and kill the
 infirm.

Thus far the *Helmontian*, but (to give him his due)
 judicious Practitioner: and I recommend this case to
 the Abettors of Doctor *Whitaker* and Doctor *Syden-
 ham*: since there appears upon *dissertation* that the *Small
 Pox* had not fixed themselves *within*, but that a meer
 surcharge of the mass of blood (either natural, or con-
 tracted from the attenuation of the ebullient blood) was
 the cause of her decease.

I forgot in the conclusion of what I writ of the
 Small Pox, to speak about Bathing of the hands in
 the Small Pox, the practice whereof Doctor *Whita-
 ker* represents, as having been fatal to the Princess
 Royal. His words are, "I observe *Riverius* above pag. 60, &c.
 all other Authors to ordain the bathings of the
 hands and feet, by reason of the density of those parts,
 in some more dense than others, as in Smiths, Carpen-
 ters, and Foot-posts, whose hands and feet are harder
 than

than persons of a more tender and sedentary Trade or Profession. I cannot but acknowledge that humectation, and attenuation to mollifie those parts, is properly indicated; but the mode of this application is observable, because upon the opening of the porosities by bathing, the ambient air may obtain the advantage of repelling the morbisical matter from those ignoble and extream parts to the more noble, by the ambient air in the course of sanguineous circulation; and hath proved fatal in such as have rare and tender skins, as is proved by the bathing the Illustrious Prince^s Royal.—Concerning that Prince^s how she was ordered, and at what time of the Disease bathed thus, I know not: but 'tis an equitable presumption that in so important a case so understanding Physicians as she employed, did nothing rashly, or without reason. I find in the relation of her being dissected causes enough of her death, without imputing it to this usage: her Omentum was putrified, and much inflamed towards the Spleen-side: her Spleen was flaccid, and semi-purrid: her Stomach was inflamed, and on the inside beset with Aphthæ: her Liver spotted, and inflamed even to a Gangrene almost: her Lungs in a manner rotten, and replenished with black blood, spotted and pustulated in the superficies, the Parenchyma of her heart was much consumed. But had not these things been, nothing is more certain, than

Th. Bonhelin. *Quod non expedit ex transverso ep. medic. fit, et super nos negotium Fortuna curat.* But that *Riverius* doth prescribe this Bathing above all Authors, is a manifest falsity. His words are only these:

Loy. Riverius *Ac primum in erupione Variolarum, aut dum matutinæ medic. rescere incipiunt, ingens dolor vel pruritus interdum L. 17. c. 2. ægrotantes affigit; præsertim vero in plantis mannum et pedum, eo quod densior in his partibus cutis erupcio nem prohibeat. Cui symptomati medeberis, si partes illas decocto emolliente dantis foveas, vel in aqua calida detineas.*

detinens. I shall compare herewith the directions of Horatius Augenius, whose character I have already given.

He having prohibited the bathing of the whole body, Hor. Augen. de
doth add. " Sed non est eadem ratio in particularibus febr. lxx.c.x.
balneo, cum scilicet partes aliquas piam extremas lavacro
calido soveremus, ut ex illis duntaxat citius & faciliter
variola exeat, doloremque mitigemus, ut plurimum,
satis insiginem: hoc quidem prætermitti non debet.
Nam plerumque accidit, ut ex volis manuum & plantis
pedum variolæ non erumpant, nisi cum maxima diffi-
culty, et dolore: propterea expedit sovere eas partes
aqua calida aliquando simplici, et aliquando simul de-
coquendo flores Camomillæ, aut Altheæ, aut violarum,
vel aliud ejusdem generis, quod fuerit ad manus. Hec-
que antiqua extitit Arabum consuetudo; nam Rha-
seg ita scriptum reliquit: lib de Pestilentia, c. 8.
Quod si in volis manuum expullulet, tu hasce ex oleo
tepente, quo gossipia imbuta sint, multum refricato,
& in calida aqua soveto. Verum si dolor non sede-
tur, nec pestis facile expellatur, tu sesamum perpur-
gatum ubi contuderis, & in lacte maceraveris, illoco
illinito, & in linteo per totam noctem alligato: de-
hinc ubi amoveris, & calente aqua soveris, rursus illini-
to. Verum si velis, palmulus ubi contuderis, & in bu-
tyro maceraveris, vel in sesami face illinito: Siqui-
dem hæc, & similia, cutem remolliunt, faciuntque ut
pestis facile excernatur & dolores cedant. Hec Rha-
ses. Quæ omnia judicantur mihi saluberrima in præ-
senti casu, nisi quod abstinerem ab oleo, quia facit ulcus
ipsius sordidissimum, ac sanatu difficile. Ego au-
tem nullum inveni præstantius remedium,
quam sovere partes extremas manuum & pe-
dum aqua tepida: vel decoctione florum camomillæ
& Altheæ. Quod si emollire adhuc magis voluerimus,
decoquo simul semina fænugræci.

This Bathing is no less recommended unto our practise by the diligent and learned *Forrestus*, who speaking of an ancient Woman, (of fifty years old) which was sick of a Malignant pestilential Feaver, accompanied with the *Miasms*, (that came out on the sixth day) concludes the Observation thus:

Huic tamen (quod fere jam omiseram) ingens pruritus & punctione in plantis pedum ac volis manuum aderant; pro quo symptomate mitigando, quum maxime eo & intolerabiliter affligeretur, ut se potius mori velle diceret, quam illum pruritum & punctionem ferre, jussi ut pedes & manus continuo teneret in aqua calida.

Quo consilio pruritus ipsum punctione cessarunt, et melius per cutem in volis manuum et pedum morbilli emergebant.

Hujus rei experimentum notatu dignum ab ipso Astario Papiensi medico accepimus, quod etiam Arcanum a Nicolo Florentino medico sui temporis insigni mutuavit: cum idem sic scribat cap. de Clariolis et Morbillis, circa finem, de corrigendis accidentibus eorumdem. Si fuerit punctione plantae pedum, aut palmæ manuum, ponantur dicta membra assidue in aqua calida: ut dicit Nicolus; & ego vidi multum conferre. Hec Blasius Astarius Papiensis in libello suo de curandis Febribus, qui adjunctus est praxi Gatinariae: quo quidem experimento ab hoc symptomate molestio et gravis nostra ægra liberata est, et brevi, Dei natus, evasit et in totum sana facta est.

Herewith agreeth the injunction of Hoeferus, which runs thus. *Ubi in variolis plantæ pedum et manuæ medic.* *nus, quod sapienter fieri solet, gravi pruritu vexantur immobilitate membra in aquam calidam, quod pro secreto habet edit. ult.* *Forrestus.*

I need not any more *Authors*: what hath been said, is sufficient to *justify the practise* to any intelligent person, and to disprove the *Assertion* of this *Doctor*; but

but as *that* is most *untrue*, so are the Reasons he gives no less *vain*. Whereas he is pleased to think that there is no such *density* in the *skin of the hands*, as is generally supposed, except in *laborious persons*: 'tis certain that some have it so *naturally*: as *Scipio Nasica*, who was therefore in *railery* demanded by one, *If he used to walk upon his hands?* Moreover, though that which is called by Anatomists the *Cutis* be thinner in the *hands* and *feet* than in other parts of the body, yet is the *Cuticula* thicker there, and 'tis possible that even it may admit of a *latitude* in its *native density* and *porosity* in *individuals*, since 'tis acknowledged and hath been observed, that some persons have had a double *Cuticula*. It is also certain, that the *texture* of the *Cuticle* may be so changed, that those humors which issued thereout by way of *insensible transpiration*, may be at some times *intercepted* and lodged in the *skin* and under the *Epidermis*: and if so, *Why may not that happen in a determinate part, which does happen universally?* In fine, 'tis frequently observed in *Scorbutics* and such as are said to have an *hot Liver*, that they feel a troublesome *heat in the palms of their hands*, and *soles of their feet*, (notwithstanding that otherwise they have *delicate and tender skins or bodies*) which introduceth a *dryness* in the *Cuticle* there: and can there be *drynes*s without a *condensation* of the *Pores*? or can there be such an *heat*, without an *obstipation* thereof? And doth not such a *condensation*, *drynes*s and *heat* indicate a befitting *relaxation* and *humectation*? How then cometh it that any man should deny the *possibility* of the *Rhenomenon* in the *small Pox* (especially since daily events make it *sensibly manifest*) or refuse to practise what is indicated? I confess the old procedure of *England* is, to anoint with *unsalted Butter*, or to bathe with *Butter and Beer*; which is conformable to the documents of *Rhases*: But you see the practise of *France, Italy, high and low Germany*, doth warrant the

Petrus Lau-
remburg. Col-
leg. Anatom.
disp. 2. sect. 14

P. Lauremberg.
ubi supra,
sect. 13.

use of warm water. He further urgeth, that upon the opening of the Pores by bathing thus, 'tis possible for the ambient Air to gain such an advantage upon the sick, as to repel the morbisick matter from these ignoble and extream parts to the more noble, in the course of the sanguineous circulation. But since continual practise doth manifest (as appears by the Authors cited) that this doth not inevitably nor commonly happen, What is an effect of negligence in the Attendants, or unknown idiosyncrasy of Patients, doth neither dispraise the Physician, nor contra-indicate to the Remedy.

And so much for Doctor Whitaker; to whom the English are obliged for his good intentions towards them in that Treatise: but not for his performances: 'tis his latest Legacy to his Countrey; but in Legacies it often falls out that the Legatee receives no other benefit by the gifts of a Testator, than that he is assured he remembred him, and had some resentments for him.

where I say that letting of blood doth not, except by Accident, in some persons, produce fatness: I do confirm my Assertion further by the Authority of

Epiph. Ferdin. med. 8:. Epiphanius Ferdinandus, who in his advice to an Italian Prince how to prevent excessive Corpulency, doth direct a Phlebotomy, and that to be repeated in both Armes. Neither do I remember any Commentator upon the Aphorismes of Hippocrates, who hath not directed that course for the extenuating of Ath-

Holler. in lect. letick bodies. This is a case in which the Germans. I, aph. 3 & Liebau. Hier. are reconciled with the French and Italians; and Thriver. ibid. wherein Prosper Alpinus accords with Franciscus Sil-Hawnius ibid. vius de le boe: the former sayes, that since frequent and large eruptions of blood do continue the Patients lean, or reduce them, that are otherwise fat, to such med.method. an
li. 4, c. 19.

an habit; that even Nature seems to instruct an Artist so as to promote such like evacuations. And the latter avows that *immoderate growth of the muscular parts is to be prevented* (amongst other accessional courses) *by often bleeding.*

Fr. Silvius de
bos pr. med.
1.1.6.38.

I think there needeth not any more to be said about the point : neither can it be justly doubted , but that if *Pblebotomy* had so usually produced this effect of fatness , it would have been reduced into *observation* by *Physicians* before 1650 .

A

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1874.

Where I treat concerning *Phlebotomy* in the *Small Pox*,
that it may be safely administred, even after that they begin
to appear: It is justified by a multitude of Examples, one
whereof lately was Sr. W. Roberts, aged above forty years
(as I am most credibly informed) they did not come forth
kindly, but *most perillous symptoms* did multiply upon him, so that
his condition seemed *desperate*; yet upon the administrati-
on of this *generous Remedy*, their *eruption* was expedited, and
all danger ceased, so that he recovered with ease. And at
New Colledge in Oxford, in the year 1660. (or 1661. I remem-
ber not well the year) the *Small Pox* raged with much *ma-
lignity*, and proved *mortal* to many; but it was apparent
that *few* (if *any* dyed) who were *let blood*; whereas on the
contrary, those that were not *Phlebotomised* died all, (or ge-
nerally) *decease*: This I was assured of by more then one,
who were then present; though not being *Physicians*, they
could not inform me of other particular *Circumstances*.

Concerning *Phlebotomy* in general, there is one Objection a-
gainst it, that I think I ought to take notice of, since it pro-
ceeds Originally from some *Virtuosi*: And though one that
hath urged it, be most grossly mistaken in his assertion that
the *Turks* use no *Phlebotomy*, the contrary whereunto is not
only evident out of *Prospere Alpinus*, but is confirmed unto me
by the observation of my intelligent friend Mr. *Denton of
Q. Colledge in Oxford* (nothing being more frequent at
Constantinople then to bleed upon every small occasion, and
every *Barber* there being a *Phlebotomist*) yet I believe that
in *China* and *Japan* the *Natives* do not practise *phlebotomy*
though the *Europeans* there do: Notwithstanding this, I do,
not apprehend the force of the Objection as 'tis managed
against *Plebotomy*, nor can I commend *their judgement*
who from *these Presidents* (which indeed are but one *All-
thority*, the *Japoneſe* being no other then a *Chinæ-Collo-
ny*) would put us upon an *Essay* of practising without *ve-
ne section*. For, the difference of *particular Countries* and *Nations*
(arising either from their *Temperament*, *Diet*, and *Ef-
ficacious Medicaments* and *Method of Curing*) as to render
Phlebotomy

Phlebotomy ufeless or dangerous there ; whereas in other places there may be (nay 'tis certain is) a necessity for a different procedure. I have already remarqued that at Montpelier, there is a greater repugnancy unto, and danger of Phlebotomy ; then at Paris : And the Presidents of the one Province doth not oblige the others : And though it be true that as in China, so in Languidock, Physick is in a good condition, yet doth it not follow that therefore it is in a bad condition in the other parts of France, Spain, or Italy, &c. 'Tis no less certain that in hot Countries (as well as here in Summer and Winter) the method of carrying varies from what is to be practised in colder climates : And as wounds in the Head and Legs are in some places cured with much more easie Medicaments then else where : So 'tis no less manifest that 'tis irrational to conclude from the facility of those Cures in the places aforesaid, that those are impertinent and mistaken, who in other Regions proceed by a more tedious, circumspect, and vexatious Method. Against that single instance 'tis almost the voice of Nature which we alledge : and since the learned and Barbarous, Europe, Asia, Africa, and America (where no Combination or Traditional Doctrine derived from one to the others can be supposed) do concur to justifie the practise of Phlebotomy against the Natives of Japan and Chiva, let us reckon it amongst their singularities (and founded upon motives peculiar to them) or amongst those Errors which their affection or ignorance hath particularly involved them in. To conclude, since the Miracles of their Cha or Te do not appear to us Practitioners in Europe to be true ; though the use thereof be so succesful there ; the cause thereof is to be made concerning be ascribed to Circumstances of their climate, and way of living, and accessional Therapeutics (so neither is there any argument from their Omission of Phlebotomy, that we may omit it here ; or that we should dare to imitate them ; but of this we may judge better when the Virtuosi receive from the West-Indies such an exact account of all Circumstances as may regulate a Physician.)

A
RELATION
OF THE
Strange Symptomes

Happening by the Bite of an
A D D E R ,

And the CURE thereof:

IN A
L E T T E R
TO A
Learned Physician.

By H. S. Physician at Warwick.

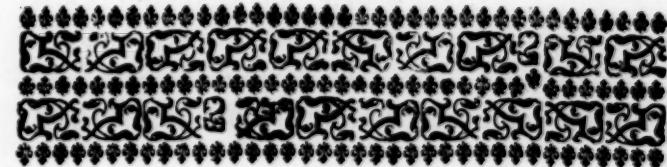
L O N D O N ,
Printed in the Year 1671.

A
KOTATTA

all day

completely

nothing



TO THE READER.

*A*lthough the insolence of some pretenders to Experimental Knowledge might discourage any Physician from contributing to the instruction of this Age ; yet I have suffered my self to be prevailed upon so far as to publish this discourse. I might have enlarged upon it several wayes, and added besides some Observations upon Adders, the way of preparing Viper-Wine, and sundry Cures performed by it, and the prepared flesh thereof. But seeing that all we do of that kind doth but furnish a company of arrogant and ignorant Experimentators with subjects to oppose us, and undermine the Faculty ; I am become inexorable as to that matter ; and will

To the Reader.

not be in the least instrumental towards the laying on of those Fetters which some men were preparing, not only for all Artisans, but all ingenuity and learning. This race of men who had determined to value and praise none but themselves, and extended their Civilities so far, that all their mutual Elogies do import no more than a trade of smoak and ceremony, may now abate of their pride and censoriousness, and be satisfied that they are not necessary to the World, except one have an occasion to send to the East-Indies to know what grows in America, or to South-wales for an account of Nova Zembla, or the Countries subject to the North and South-pole : If all History and Antiquity be to be affronted most impudently ; if false Relations concerning Salt-peter, Cider, Birch-water, &c. seem requisite : If Chimæras be to be proposed, or the Education and Religion of our native Countrey changed, there is some use for this Association, which considering their Armes, Projects and Deportment, always puts me in mind of that Poetical Fancy described to be

Teignor Mer, Emperur of Japan, son of Japalay;

Had I written according as they replied,

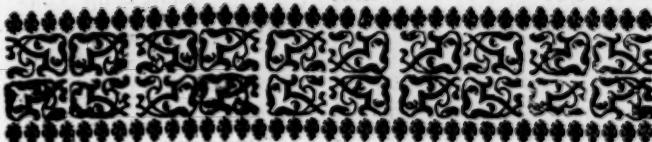
To the Reader.

I could have confessed my self mad ; and less than a distracted Brain would never have chosen to desert Aristotle and Quintilian to imitate the fam'd Impertinencies of the Orator Posthumus, who being to plead a case about three Goats that were stollen, began an Harangue about Sylla and the Mithridatick Warre, and never touched upon the main Controversie any more then doth the illiterate Eccholius ; who what He designs I cannot tell by flattering Doctor J. W. and Mr. R. B. and terming an old Parliament Officer (who hath the Canker of Presbytery , and the Conscience of an Oli- varian ; and who knows nothing by me, a stran- ger to him , though he hate me for knowing too much by him) the Loyal C. E. D. And Letter p. 32.
as great a Riddle is it , how this Renegado- Presbyter should dare to say , that there is not a Man born since 1936. less obnoxio-
ous to the Church and Government. Will the generous Cavaliers endure this ^{151d.} from a Rump-Chaplain ? Who confes-
seth himself to have been a Preacher in those dayes, and never gave his Vote for Epis-
copacy (but preached against Christma-
Pies) till a year before the Kings coming in. Certainly he was a very Fool, who could be in those dayes so ignorant of the

To the Reader

controverted Points; and 'twere an intollerable extravagance in any but a **Virtuoso** to write this now. But I shall call him to a particular account for all by the next Term.

A



A
R E L A T I O N
Of the strange SYMPTOMES

Happening by the Bite of an adder

A D D E R.

Honoured Sir,

I Have at last finished the cure of that Man who was so unfortunately bitten by an *Adder* here at *Warwick*, and because of the *rarity* thereof, I shall satisfie your desires in penning it.

Upon *May* the seventh, 1671. *Joseph Denny* a poor Man in *Warwick* (usually employed by me to catch *Adders*) walked out with his *Brother* to conduct him a part of his way homewards, and having gone about a Mile, he espied an *Adder* lying in the Sun, it being about six a clock in the morning: he was willing to shew his *Brother* the *curiosity* of catching *thee*, and how dexterous he was thereat: and though he had neither

Glove:

Glove nor Tongs with him (as not designing *that work on sundayes*) he did notwithstanding cast himself near the Adder , and nimbly seising on her Tail threw her from her Covert , with such celerity that she could not bite him , and then haltered her with ease : A little after he espied another , but lodged in a place of more difficult access : In this attempt , which is performed with so much agility , it was his misfortune to seise upon the middle of the Adder , and before he could disengage his hand , she bit him on the inner side of his middle finger , just upon the middle joint ; yet did he dislodge her from the Covert , and took her . There appeared the impression of the two teeth , (though I speak as of a female , yet 'tis more than I know which it was , and usually they are males which have two teeth) but the pain was no other than one would feel upon the pricking of a pin .

Being sollicitous about his condition , he took leave of his Brother , and perceiving a little blood upon the wounded place , he sucked that and the virulency (as he thought) out , and then spate it forth of his Mouth : then he washed the place affected with cold water , and finding the tumour and pain to increase (which was not such as happeneth upon inflammations , but like that which precedeth a Sphacelus , and was accompanied with a sense of benummedness) he hastened home unto me , whom he knocked up before seven a clock , and having only time to signifie his condition , at the door , he ran to his own house , to enjoy the convenience of his bed , and the attendance of his Wife , who immediately repaired to me for directions ; the whole Hand was extreamly tumified , and black , and the swelling began hastily to dilate it self towards the Elbow : He was seised with a Vertigo , vomiting , swooning , and a cold sweat , the violence whereof

whereof was such, that the drops trickled from his Head, as if his Hair had been wet with a great Rain, or water: where each Tooth had fastened, there appeared a blackish Pustule, or Blister; I appointed his Wife to make a strong Ligature above the *tumour*, at his Elbow; and having clipped the *Blisters*, to hold a red-hot Fire-shovel as near to the part affected as he could endure it, and to give him a good draught of *Viper-wine* presently: At her return she found her Husband not in a condition to speak intelligibly, his Tongue was swelled, and he faltered in his speech, as those do who have an *Hemiplegia* or dead *Palse* in their *Tongues*: Upon the drinking of the *first draught* of the said *Wine*, he vomited up abundance of bitter *Choler* mixed with *Phlegme*, coloured *yellow, green*, and *blew*; then she gave him *another draught*, (at both times *half a pint* at least) whereupon his *vomiting* and *swooning* ceased, and his *speech* returned to him: The *Ligature* had put an happy stop to the progress of the *tumour*, but the *heated Fire-shovel* produced no effect at all, the *tumour* and *pains* still *increasing* betwixt the *wounded place* and the *Ligature*: By this time I had got on my clothes, and hastened thither with a *Chirurgeon*: I found the man as *cold* as any *dead Coarse*, and all over turned as *black* as a *Tawny-moor*, (though otherwise his *skin* was very *white*) and amidst the blackness of his *hue*, there was a visible mixture of *greenish-yellow*: I could not feel any *Pulse* in either Arm, and he complained of a *palpitation of the Heart*: I caused two *scarifications* to be made on each side of the Finger above the *joyns*, as deep as the *tumour* permitted, and four more to be made on the *back of the hand* in the like manner: and upon incision the *flesh* did *cut* as if it had been of a *dead body*, there issuing neither *blood* nor any *serous liquor*, though he had his *feeling* there as entire as ever: I layed to the places

places a Plaister of *Venice-treacle*, and gave him inwardly above half an ounce thereof in some *Piper-wine*: the operation whereof was not such as to get any warmth in his *body*, or any *pulse*, or the least alteration in his *Arm*; whereupon I sent for some *Angelica-water* (being unwilling to give him more of the *Viper-wine*) and put into a draught thereof at least two drachms of *Mixtura simplex*, upon the taking whereof his *Pulse* returned immediately, and a warmth diffused it self all over his body, excepting the affected *Arm*, his cold sweats ceased, and a red colour came into his face, the palpitation of his *Heart* left him, and he became cheerful: I repeated the dose, and caused *Fire-shovels* to be heated five or six times and held near the scarified places: hereupon he fell into a great sweat all over (except that hand) the affected part became hot, and the scarified places bled abundance of florid blood, which I suffered to flow without any impediment: where the Teeth had fastened there came forth as I took up the Plaister of *Treacle* two little pieces of black flesh of the bigness of a great pins head; and finding him in this hopeful condition, I went to Church, directing that he should not sleep (to which he was much inclined) and that there should be given him for food only some *Mace-beer*, with a little *Sage* and *Wormwood* boyled in it; and that he should take every half hour two or three spoonfuls of *Angelica-water*, with some ten drops of *Mixtura simplex*, and continue his sweat.

After *Sermon* I found him very cheerful and well, no pain in his *Arm* but what seemed to proceed from the *Ligature*: whereupon I caused the *Arm* to be unbound, and washed with *Aqua vitae*, and a new but gentle *Ligature* to be made higher, towards the Shoulder: and that he should continue the *Cordial*, and the Soxes were dressed with a mixture of *Venice-treacle* and

and *Basilicon*, and pieces of *Lint* dipped therein were put into the holes, whence the mortified flesh had come forth.

After Dinner I found the man in the same condition wherein I had left him, only the tumour had diffused it self to the shoulder and *Arm-pit*, and sent pains as far as his right Breast: He had of himself two Stools, in which there was nothing observable: I directed the taking of his *Cordial*, and at night half an ounce of *Venice-treacle*.

¶ But in a few hours after, there being no considerable evacuation of matter, there was applied to the Scarifications a Plaister of *Burgundy-pitch* and *simple Melilote*, equally mixed: whereupon there issued forth in good quantities a yellow ichorous matter, the efflux whereof was continued by the application of *Basilicon* and *Venice-treacle*: where the *Bite* was, the Sore grew foul, and thereupon that was dressed with *Basilicon* and *Egyptiacum* mixed; And thus the Cure was prosecuted to the end, according to the discretion of the Chirurgeon: only during the first and second day, the violent tumour of the Finger, Hand and Arm continuing (notwithstanding the evacuation by *Scarification*, and diffusing it self) I did give way to the applying of a *Pultice* to the *Arm* (from the *Wrist* to the *Elbow*) made up of *Oatmeal*, *green Betsy* shred, and *Milk*, to which was added in the end a little *Oyl of Roses*, *Oyl of Mallows*, *Sheeps Suet*, and *Oyle of spike*: the which *Pultice* had been tryed in *Warwick* upon the like case, when all the discretion of a knowing *Chirurgeon* could not secure the like tumour from an imminent *Gangrene*, the pain also dilating it self, as in this case: and to the tumour on the back of his hand was applyed *green Wormwood* shred, and heated as hot as could be indured.

Being called out of Town, at my return the next day I found the *tumour* and *pain* much abated, the Man so well as to sit up, without any ill symptome, only he had made no *water* since the *Bite*: whereupon I appointed him to take once in two hours a drachm of *Sal Prunellæ* in his *Mace-ale*: and at the first dose he made much *water*, but it was of so deep a red, that his Wife imagined it to be *blood*: the next was *high-coloured*, but on the next morning I found its colour to be natural: The *tumour* on Tuesday being almost gone, and the pains every where vanishing, I appointed the *Chirurgeon* to keep the *Scarifications* open, and to order them as common *Sores*, but to continue to the bitten place (both holes being run into one) the *Basilicon* and *Treacle*: and being willing to preserve my

Vide Sanctum Ardonum de venenis l. 6. c.1. p.335,336 ex Scorpionis. Fortius ju-vamentum est in comedione alliorum, est enim curatio fortis valde. *Venice-treacle*, I appointed he should take a *Clove* or two of *Garlick* every morning: which, howsoever it be commended in *this case*, did produce such a pain in the *Sore*, that I was forced to alter it for some *Mithridate*, to be taken every *night* and *morning*: The same week he was so well as to take me (but with more caution) twenty *Adders*: and now, after three weeks time, the *Sores* are all well, and not any *tumour* remains, he being purged only, in the conclusion, with the decoction of *Damask-Roses*.

But after a few dayes a *new* and *strange Symptome* appeared, all his *Back*, *Breast* and *Belly* became spotted with *yellow spots* (of different Figures) resembling exactly the *colour* and bigness of those of the *Adder* which bit him: the rest of his *skin* being *white*: and this continued from about the *fourth day* till now, with this discrepancy, that in process of time from *yellow* they turned *brown*, and so by little and little disappeared: some remains thereof are still visible; but he is perfectly well, (excepting a sense of

of benummedness in that and the two subsequent Fingers, which seems to shoot from the head of the radius at his Elbow) and hath been on mowing several times; and is more corpulent than ever before: And that part of the Skin on his Back, Breast and Belly, which was so spotted, now peels off, and a whiter one succeeds in its place.

Having given you this account of the *Accident* and its *Cure*, I shall add some remarks thereupon.

It may perhaps be expected that I should have applied the Head of the Viper unto the wounded place, or some sliced Pigeons or Chickens: but the *Accident* being proceeded so far, I durst not adventure the Patients life upon such *Remedies*, as if they proved ineffectual might frustrate the use of other more generous Medicaments.

The use of the heated *Fire-shovel* you see answer'd not those praises which Mr. R. B. honours it with: as little doth Mr. Chars attribute thereunto, in the cure of that unfortunate Gentleman whom He recovered. I add, that the Remedy is older in England than Mr. R. B. and his Friends: I have read in sundry ancient Receipts both Printed and Manuscript, where for the sting of a *Wasp*, *Hornet*, *Bee*, or *Adder*, the application a Coulter red hot, as near to the affected place as possible, is advised: and certainly the efficacy of the heated Coulter must be greater by reason of the intenseness of the heat, then his thin Knife or Spatula can promise. Let us hence learn, that though the *Virtuous* do write, yet do not we improve alwayes in useful Knowledge: and if at any time the Medicaments of the Ancients do fail our expectation; those of the Moderns (I wish they would not upbraid

Mr. R. B.'s
usefulness of
Experimental
Philosophy,
part. 2: p.49,
50.
Mr. Chars of
Vipers, c.8.

us with old Remedies) lye under the same uncertainties.

I did not cauterise the place that was wounded, because it was so near the *ligaments* and *nerveous* parts; besides, I had no great opinion of its successfullnes, for the venome having diffused it self so far, could receive no stop by such a *cautery*: I add, that when *Baccius* had so cauterised his Apothecary, who was bit in the Thumb, and that within half an hour after the bite, notwithstanding that, he fell into most *virulent vomitings*, and other dangerous symptomes, and had in all likelihood died, had not he been carefully attended and followed with Antidotes forty dayes: Whatsoever is said of such *cauterising*, it strengthens the part, hinders *afflux* of humours, and their *efflux* also, whereby the *venome* is continued in the Body; but 'tis our intention to evacuate it by the place bitten, as every man knows.

In the *Cure* it is observable, that the Man principally attributes his recovery to the *Viper-wine*; though I much doubt whether it would have been so effectual, had I not unceasantly administred unto him the *Mixtura simpla*, or until I threw him into a *sweat*. However you see that there is no such absolute necessity of the *Volatile Salt of Vipers*, that Mr *Charas* so much magnifies: my *Cure* was more *expedit*e by much than his, though the Wound were more *dangerous*: and he affecth the *Virtuoso*, not only in stealing that preparation of the *Salt of Vipers* from the candid and learned *Zwelfer*, and never mentioning him, but in boasting so much of a Remedy which the *Galenists* may want without any prejudice, and which in many cases I have found far inferiour to *Viper-wine*, and of no other effect than what you may expect from the

*Andr. Baccius
de venenis,
pag. 16.*

Volatile

Volatile Salt of Harts-horn fixed in the like manner.

As to the *Symptomes* which befell this man, most of them are taken notice of by several Authors, though all that are bitten do not suffer all the same Accidents: the *idiosyncrasy* and *anger* in the *Adder*, and the divers *constitutions* and *apprehensions* of the Patients creating such variety of Accidents: but in many things did our case differ from what is related by any one Physician, as you may see in *Sennertus*, and *Santes Ardoynus*, *Paræus*, and Doctor Read. The rising of the black *Pustules*, and the stoppage of *Urine* seems to be designed by *Sennetius* and *Santes Ardoynus* by their *Difficultas Urinæ*. But how far it was from any inflammation (which some speak of) you may judge by my Relation, which favoureth the Opinion of *Galen*, *Mesue*, and *Aaron*, that the *poysion* of Vipers is cold.

Santes Ardoynus
de venenis,
lib. 6. c. 1.

Upon his sucking of the *Wound*, and the evil consequents thereof, it is observable how unsafe that direction of *C. Celsus* (*Vesalius*, *Forrestus* and others) is, who advise that a man should suck the bitten place. In *Amatus Lusitanus* you will find a relation of one who dyed by sucking of the place bitten by a *Viper*: The same is avowed by *Matthiolus*, as *Paræus* recordeth the story out of him, and instanceth further in a Patient of his own, who was much endangered by sucking, upon the bite of an *Adder*. It is also disliked by *Epiphanius Ferdinandus*.

C. Celsus medic. l. 5. c. 27.
Vesal. chirurg. mag. l. 3. c. 14.
Am. Lusit. cent. 3 cur. 14
Ambr. Paræus chirurg. l. 20.
c. 16, 23.
Epiphanius Ferdiand. cas. medic. 31.

I forgot to tell you one *Accident*, and that was on the third day, when he was taken with so great a pain in the bottom of his Belly towards the *Perineum*, that he (to use his own expressions) seemed to

to be torn in pieces thereabouts : of which *symptome* I have not read any thing, unless it be that amongst the consequents of such *Bites* the great *Paræus* doth say, that *Torsions in the Bowels do by fits afflict the Patient*. But this happened after that he *made water freely*, and without any *pain* but what he *felt by way of debility* in the *Muscles subservient to that evacuation*.

*Termina ex
intervalis
excruciant.
Paræus chi-
turg. l. 20.
c. 16.*

I might prosecute the Discourse so as to discourse about the *venome* of the *Adder*, wherein it consists : but much hath been said on that *Point* by *Zwelfer* (out of whom *Choræs* doth steal much of his Book) and others.

*Galen. de
simplic. l. 10.
Prosp. Alpin.
med. meth.
l. 4 c. 4.*

That a *Viper* is not poysone, when *drowned* and *pu-
trified* (if I may so call it) in *Wine*, appears by the Relations of *Galen* : And *Prosper Alpinus* saith the same of those *Snakes* which the *Italians* call *Anzæs* : and daily experience sheweth the truth thereof ; nor do I believe that any ever reaped any inconvene from *Viper-wine* made in that manner, except it were *by accident*, though for some Reasons I do not follow *that way*. I have drunk of the *Wine* made so, even when I have *angred* the *Adder* before I put it in. I have tasted the *Gall* and that *yellow juyce* which lyes about the *Teeth*, without any hurt : the *yellow juyce* did to me seem *insipid*, or a little *sweetish*, if it might be said to have any *taste* : Mr. *Choræs* sayes he found Vipers, sect. 8. the taste of a *Salvia* or *Spittle* sufficiently flat, and approaching enough to the taste of *Oyl of sweet Almonds*, in the *yellow liquor* of the *Gums*. Herewith agree *Amatus Lusitanus* : though *Zacchias* say that his Apothecary tasting thereof found it to be *Saporis insipidi cum ponticestate* : And it seems to me indubitable, that the *venome* of the Animal proceeds from its *indignation* :

*Zacchias qu.
medico leg.
l. 2. tit. 2. qu. 7.
sect. 10.*

dignation: (which opinion *Poterius*, *Helmont*, and *Zwelfer* proposed before *Charas*) and that there is a virulency in the Wound appears by the evil accidents upon sucking thereof: Yet must I note, that *Veslingius* saith of the Teeth, that the poysen doth formally lodge there, and that the Teeth being taken and rubbed upon any Weapon do give it an impoysoning quality, if any be wounded with it.

But I shall detain you no longer, though I could shew some defaults in *Charas*, and illustrate the History of Adders, by Observations upon the several Animals into which I have suffered the Skins and Livers to putrefie: But I shall conclude with the profession of being,

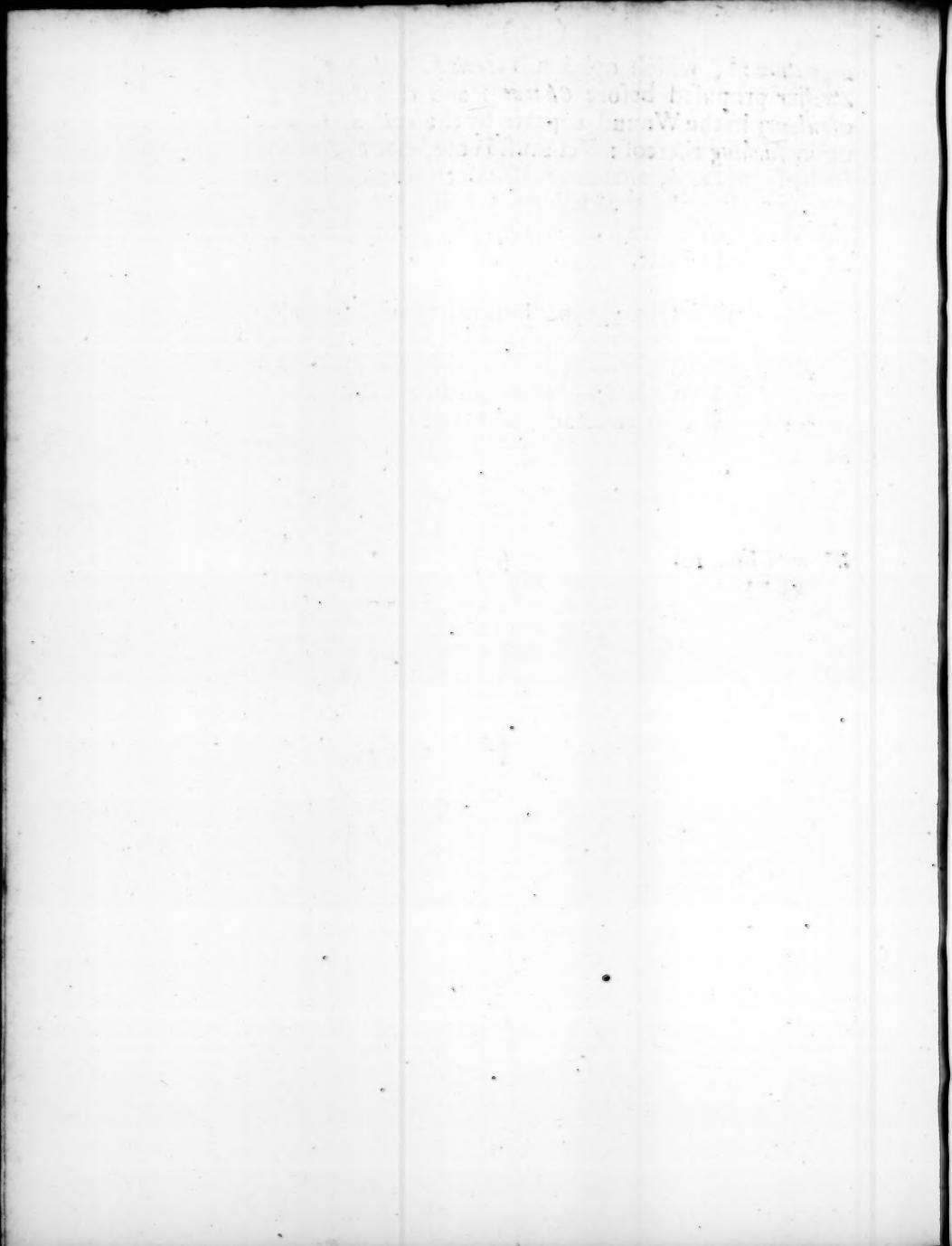
Warwick June 12:
1671

SIR,

Your most humble Servant

Henry Stubbe.

F I N I S





A P R E F A C E To The R E A D E R.

About Christmas, I was earnestly pressed by some Persons of Great Learning, and of no Common Repute, to make some Reply unto---- G. Thomson; not only to chastise his Insolence towards me, (for which he had made me Sufficient Reparation by his Postscript against D. M.) but to punish him for the Indignities he had put upon my Faculty. Having finished that Treatise, I was importuned to write something about Phlebotomy, since he had made such a clamour about it against the Colledge, and that this Point had not been handled by the Adversaries of M.N. how necessary forever he had rendered it by the Publication of *Medela Specie*. The Request seemed very Just, but how I should be able to perform the Undertaking to my own Satisfaction, or that of others, I knew not: For this Age seemed so to have charged the Methods of Ratiocination, & so altered the Principles of Physick and Philosophy, that for a man to argue as our best Writers do, were to subject the Cause to all manner of Scorn and Contempt: And how I should reduce the Phænomena which are undeniably consequential to Plebotomy, under one plausible Hypothesis, I did not well comprehend: For I had no Collections upon the Subject (indeed I never made any in my life upon any, but remit all to the strength of my Memory, and that now declines) nor had I ever framed to my self any Idea of things that might accomplish me thereninto: Though I have for sundry Years been contriving some Materials

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Materials in order to it : And had seriously gone about it, but that my Contests with the Virtuosi have diverted me, and the Troubles and Dangers they have ever since alarm'd me with (even to the hazard of my Life, and Fortunes) made me unwilling to begin what I should never have opportunity to conclude. However, since they were pleased to have some Opinion of my Abilities, and promised to acquiesce in what I could do under so little Leisure, as my Practice affords me, and so great Disadvantages as my Disfurnishments created me ; I did submit to the Task. And thou hast here, Reader, what my Thoughts could Recollect and Digest in the Space of a few Weeks, and those Interrupted with other busineses, amidst so slender a Library as mine is ; the Defects whereof, I could not supply any wayes, many of the Books which I would have made use of (and which I lost by the late Fire) being not to be found in any Library, or bought in England : So much decayed is the Trade of Book-selling, together with the present Declination of all Learning. If, to have refuted my Adversaries, be all that thou expectest, I have done it perspicuously, and fully : If thou look'st for a compleat Hypothesis in defence of the Physicians Practice, I acknowledg the present Treatise to be deficient. For, as to the Nature of the Blood, though I have made many Essays in reference to the discovery thereof, yet one Inquiry hath so multiplied others, and there is such a variation thereof not only in Individuals, but according to the Seasons and Seasonableness of the Years ; that I am better able to convince others of their Errours, than to demonstrate other Principles : Something I have done in order thereto ; and some things I could have further prosecuted, but would not : For I have no mind to instruct others too far : Let them study (or, to speak in the Dialect of my Enemies, let them Read Index's) as I have done : To what purpose should I add strength to those Fetters which are preparing for my Faculty & Or prejudice Learning, by qualifying a sort of Ignorant, Idle, Talkative-Infolents, to maintain Conversation in any Company ! If I could see that the Parliament would, in pursuance of the Prudent Laws made by our Ancestors, regulate our Faculty according to Real Policy, and the Precedents of the best Governments, I would not only Contribute all I could to the publique Utility, but propose such a Designe, as should add more to the Advancement of Useful Knowledg, and that Learning, which is necessary to the Support of this Monarchy, as no Age did ever parallel ; which should be Facile, Practicable ; and the Effects thereof, should be more Visible in three Years, than theirs have been, who boast that they have done more in six
Years,

Heats, than the Aristotelians in more than thrice so many Centuries. But let these men have their Desires; Let them be loaded (according to their own Overtures) with all that contempt which is usually the Reward of vain and unprofitable Projects.

I cannot but look upon it as a singular Act of Providence, that I should fix upon the present Title of this Book; and direct my Censure against the Lord Bacon, and those that pretend to be Followers of Him in Philosophy; seeing that it hath happened so, as that *Cæbultus Glandill* hath made use of that Great Name, to excuse his Errors and Insolence; and thinks it a sufficient Apology, If In his Letter he can shew that the substance of his most Obnoxious Periods and to M.S. p.8. Passages, are to be found largely, and often infisted on by so Great, Learned, and Wise a man, as my Lord Bacon. Which defence, though it be no other than he might make, who should tender us a wrong Account of the Sweating-Sickness; or avowe that Coffi were Narcotical; or obtrude upon us a thousand Falsities out of the Philosophical Writings of that Lord, and Lawyer; yet doth it seem requisite that I should say something more in reference to his Authority, left, what imported little in the Age when he lived, should be prejudicial, and destructive to that which succeeds. I will not deny that he was a man of good Literature, and great Eloquence, accompanied with a popular, and florid way of Expressing himself: By Profession, he was a Lawyer, and the principal part of his Studies were bent that way; and although therein he were surpassed by others, yet 'tis there that his Credit must seem most Authentick, or no where: We acknowledg no Chancellours of Philosophy, Philology, Medicine, &c. Nor do Artists suffer themselves to be over-swayed by the judgments of men, that are either totally unacquainted, or have but transitorily, and superficially looked into the Subjects they treat of. No Law ever made him our Dictator, nor is there any Reason that concludes him Infallible: Nay, it is manifest that he was frequently deceived. And, since the Gardiners have protested against him, and that justly: Since the Chymists, and the Mathematicians disclaim Observations him: Why may not a Physician refuse to be tried by *Him*? Not on his Natural History. that this doth introduce a Comparison of Abilities in general, but of knowledg in particular Cases; and the World hath always allowed, that A Person, otherwise Ignorant, even a Fool, may know more in his own House, than a Wise man doth in another's. Besides, I hope my Adversaries will permit me to retort upon the Lord Bacon, what they (though most injuriously) urge against Art-

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Aristotle: *And to propose it to their judgment, "Whether 'twas like-
ly that my Lord Bacon was so far beyond other Scholars in his
Intellectuals, as these latter Times have presumed; when He
came so far short of most of them in his Morals? I believe
there is a near Connexion between Truth and Goodness, and
there's a Tafte in the Soul, whereby it relisheth Truth, as the
Palate Meats; which sense and gusto vice depraves and viti-
ates. So that, though Wit may make the vicious cunning So-
phisters, and subtle Atheists; I doubt, seldom the most exercised
Philosophers.*

*I shall not prove this Charge by alledging Writers who were not
Born till above many Centuries; Nay, above a thousand Years
after: Such is Suidas, (who is very Fabulous) and S. Jerome. Nor
impose upon my Reader Authors who write quite contrary to what is*

(a) See the Words of Aristotle in Caesar's Notes upon the fifth Book of Diogenes Laertius: In the Edition of Mennagius, p. 41.
42.

(b) See Mennagius's Notes on Laertius, lib. 5. p. 110. and Jonsius, l. 2.c.2. p. 125. Uti supra, p. 91.

Uti supra,

p. 84.

Aristot. polit. l. 7. c. 4.

to be averred; as (a) Aristocles, and Arrian: Nor represent as befitting Witnesses, a company of Buffoons, and notorious Liars, such was Timæus.: But refer you to the Common Opinion about Passages within the Memory of man, and to his Accusations in Parliament (which are Recorded): and since He durst not stand the Trial, but cast himself upon the Mercy of the House; his condition admits of no vindication; and I again retort the Words of Ecebolius upon him: "Thus then you see an ill Character of the Lord Bacon's manners from dis-interested Authorities; on consideration of which, 'tis to me matter of some Wonder, that the Memory of the vicious should be so blessed, and his Authority so Irreprovable. — But to pass by this Argument, which I confess to have been Weak, when first urged; but is Strong, when it is retorted: I do say, that the Credit of no man is such, as ought to sway us against manifest Experience; and if Aristotle teach me that what is most Rationally insisted on, if it be sensually refuted, cannot be adhered unto without an Imbecillity of Judgment: I am to be pardoned, if I submit not to the Artificial Argument of my Lord Bacon's Authority, when his Assertion is apparently False: And so it is in more Cases than that of the Sweating-Sickness. So it is in that Saying of his (so pressed by Ecebolius) that he never names any ancient Author, but to Confute, or Reprove him: For he cites an hundred Authors in his Works by way of Illustration; makes an Honourable mention of Hippocrates, and no where reproverb him. Not to relate the Altar and Inscription which he erected to Plato; and other Instances that might be made of his mentioning Ancient Writers in places where he no way disparageth them, nor Animadverts upon them. So it is in the places

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places alledged now by Ecebolius. For if it be evident, Aristotle did resolve his Philosophy finally into Sense : If it be evident, that Aristotle did propose, and pursue an History of Nature (which was carried on by his Successors, as Theophrastus, Erasistratus, Herophilus, and others) and esteemed no Universal Propositions to be true, but what are verified in every Individual (which is the Foundation of all he Writes about the Art of Reasoning :) If it be evident that the Glorious Body of Physick which we now possess, was principally erected upon his Physiology and Deductions (which he that Reads Galen, Mercatus, or Fernelius, may see) and our Practice is not only regulated happily thereby as to known Diseases, but directed in order to the Discovery of New Medicaments, and the Cure of New Diseases, (not to mention the Natural Improvements) : If these things are evident (which no Scholar can deny) what Truth can there be in those Citations or Aphorisms of my Lord Bacon, so much enforced against me by Ecebolius in his late Letter ? What doth he bring but fresh Testimonies of his intollerable Impudence and Ignorance, and create new Umbrages upon that Lord, when he recites an egregious mistake of His ? " Si-----
" id minime eventurum suisset, quod per annos bis mille jam fieri
" videmus : Nempe ut Scientia suis hæcarent vestigia, &c in eo: Nov. Organ.
" dem fere Statu maneant, neq; augmentum aliquod memora- Aphor. v.74.
" bile sumferunt ; quin potius in primo Autboze maxime florue-
" rint, & definceps declinaverint. This being said of the Helen-
ees in general, is an Insufferable Untruth : For who knows not
the large Improvements that the Mathematicks received by Euclid
(who lived after Aristotle) and others, Who had then advanced
every part of the pure and mixt Mathematicks long before the Ve-
rulamian Philosopher writ this ? Who knows not, how Herbary had
been improved by Theophrastus, Dioscorides, the Arabians, and o-
ther Peripateticks, in like manner ? Who can deny that Physick
(in every part of it) and particularly Anatomy was improved by
Erasistratus, Herophilus, Galen, Vesalius, Fallopius, &c. before
the Lord Bacon ever stuck ? And what accessionals had Chy-
mistry received by the cultivation of the Aristotelians, before that
the House of Solomon was dreamed of, or the New Atlantis
discovered ? Let us therefore not be concluded by the Aphorisms of
this Lord : Let us not take his Assertions for Legitimate Proofs :
Let these insulse Adherents of his buy some Salt, and make use of
more than one Graine when they Read him : And let us believe
better of the Ancients than that their Physiology advanced no-
thing ; or that Their Methods of Science are so unfruitful, as

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in so many Centuries not to have brought the World so much Practical beneficial Knowledge, as would help towards the Cure of a Cut-Finger. Because the petulancy of my Adversary doth enforce me libereunto, I do declare, that the Lord Bacon did steal the principal part of his *Nobium Organum* out of Aristotle, and only disguised his Suggestions in a new Mode and Dress; As he likewise borrowed the best Radiments of his *Advancement of Learning* from *Ludovicus Utres de causis corruptarum Artium*; What was his House of Solomon, but the Ecotype or Transcript of the Peripateticks establishment at Alexandria in the Museum of Ptolemaeus Layides, and Demetrius Phalereus? 'Tis by his great Example that the Baconical Philosophers are such Plagiaries, and Relators of false and defective Experiments; Contemners of the Ancients, and opinionated concerning themselves. The only judgment I can make of my Lord Bacon's Altings, is, that being so Flagitious, and so Ignominiously degraded: He determined to redeem the Infamy of his past Life by amusing the World with New Projects; and to gain a Chancellourship in Literature, when he was excluded from that on the Bench: And to revenge himself of the Nation whom He had exasperated, by diffusing Heresies in Philosophy, and creating in the Breasts of the English such a desire of Novelty, as rose up to a Contempt of the Ancient Ecclesiastical and Civil Jurisdiction, and the Old Government, as well as Governours of the Realm: And the Root of all our present Distractions was planted by His Hand.

The mention of Ecebolius Glanvill seems to give me just occasion to digress here, and to give my Reader some Account of his late virulent Books against Me. I gave him no Occasion for to Write in that manner; nor did I Transgress the Act of Indemnity and Oblivion to depreciate the Virtuosi, though they were much more obnoxious than I: Whereas He, to accomplish a Revenge, doth begin with the Breach of Divine and Humane Laws: The Penalty in the Act of Oblivion determined after three Years; but the Command is no less than *Utter Oblition*: So run the Words of the Act. The Rectour of Bathe tells me that, "If I think so in earnest, the Law is open; I may take my Course." But this Divine might have known, that there are more Injuries, more Sins, than the Temporal Laws prescribe a Punishment for: And that the Obligation of the Law doth not depend upon it's having a Penalty annexed. The Commandment of the Sabbath was given, and the Violation thereof, a Sin; and he that had gathered Sticks thereupon

therupon was apprehended, and put into Ward, till God should determine how he should be punished. Is not this a fit Person to be Numbers 13.
 entrusted with the Cure of Souls ! But to pass by His Impetuosity,^{32, 33, 34.}
 and proceed to his Indiscretion ; Is it not extraordinary, that He
 should upbraid me with adbearing to my Patron out of Gratitude,
 when He complied with the Same Parties out of Interest, and to ad-
 vantage Himself ? I could trace the Saint from Exeter-Collegiate
 to Mr. Rouse's ; and the L.— W.'s, and from the Rota of
 Mr. Harrington, unto the Lord Mayor's Pulpit, when he Preach-
 ed the Sermon about Catholick Charfty. What Prayers, what
 Graces he uttered in those Families ? 'tis easie to conjecture that
 they transcended a Negative Loyalty. But as for his Abettours,
 I have seen one of them Sneaking at Sir H. V.'s. He was Tutor
 to his Nephew, and Intelligencer during all the late Usurpations.
 He saith, He blames me not for Writing against Doctor J. W.
 but for treating him so opprobriously. I answer, that I gave him
 such Language as his Ignorance (in those Questions) did deserve :
 And I refer my self to all the Royallists, if any Language could be
 Malicious and Scurrilous, which was used against the Sub-Scribe
 to the Tribe of Adoniram, who had been an Active Preacher in the
 first War, and Decyphered (besides others, to the Ruine of many
 Loyal Persons) the King's Cabinet taken at Naseby, and, as a Monu-
 ment of his Noble Performances in behalf of the Cause, deposited
 the Original, with the Decyphering, in the Publique Library at
 Oxford ? As for Mr. R. B. who writ the Holy Common-
 wealth, and the Key for Catholicks : He having reviled on, and
 belyed my Patron, (as he did also the Church of England) and
 refuted his Notorious Lyes, and discovered the Ignorance of a Man
 who (till then) had in the Nation some Esteem for Learning ; If
 this was not a considerable Service to the King and Episcopacy, I
 understand nothing : And though I did not intend it as such (which
 I yield) yet they are so generous and just, as to distinguish betwixt
 those who (though Undesignedly) served them, and those that did
 all they could to Destroy them. The Key for Catholicks is Un-
 repented of ; and I recommend that Book to the Perusal of the Epis-
 coparians, and let them judge whether He that writ it, or He that
 oppoised it (though in defence of Sir. H. V.) and pleaded earnest-
 ly for an Indulgence towards them in the Liturgical way, deserved
 best at their Hands ? * I say, I could not abuse Mr. R. B. in those
 fatory Discourse against me, came out both together, and were sent to me Bound together :

* Take no-
 tice that the
Pia Philosopha,
 and the *Pie-*

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DAYES: *And I cast my self upon the Royallists for my Judges; What say yee Gentlemen? Was He the only Man that spoke Sense in the Age of Non-sense? Was He Reverend, Learned, and Ingenious? But, What is it that Ecebolius doth purpose to himself? Would He overthrow all our Laws as well as the Act of Oblivion? Why doth He now caresse this Party so highly! He adds, That 'tis to be hoped there are not any more Criminal than I on this side Charing-Cross, Tyburn, or Tower-Hill. Is not this all one, as to bid Derrick take the Author and Approuer of the Pindarick Doge! Is it not to Sentence unto Death the Actours of the first War ('tis well his Patron Mr. Rouse is dead) the Trooping Divines, the Decipherer of his Majestie's Letters, the Followers of Oliver, and King Dick, not to mention others? The truth is, O most generous and candid Royallists, being a Poor Boy at Westminster-School (as my Reverend Master, Dr. Busby can tell you) aged about Ten years old (there are but few years difference betwixt my Age and that of Ecebolius) Sir H. V. casuallie coming to School with Dr. Osbolston, did take a kindness to me; and frequently relieved me with Money, preferred me to be a King's Scholar first, and afterwards to Oxford: At such times as I had convenience, I had the liberty to resort to his House, and fill that Belly, which otherwise, had no Sustenance but what one Penny could purchase for my Dinner: I had not any Breakfast, except I got it by making some bodies Exercise. My Mother had two of us to maintain by her Needle at London, after we had Travelled on Foot from Liverpool thither. I was not a little obliged to the Charitry of my good Master, for Money to buy Books, and Cloathes, besides that He gave me my Schooling. I was sent to Oxford after the late King was Beheaded, being aged about Seventeen, and very Little of Stature. The Quarrels, and Animosities growing high betwixt the Presbyterians and Sir H. V.'s Friends, I sided with him. Was it, Generous Sirs, any Faction in me, or the Testimony of a Factious Spirit to oppose the Presbyterians? or, was it a Crime then to serve my Patron? Twice I with Tears implored the Protection of Sir H. V. and C. L. to save Westminster-School (that great and known Seminary of Royallists) from that Destruction which the Presbyterians, and Independents menaced it with: And my Master shall witnessse how I interceded for Hm. 'Twas I brought the Engagement down to Oxford (thongh I took it not; being an Under-Graduate) and having got Doctor S. F. and Doctor R. to be turned out, I saved the remains of the Cavaliers in Christ-Church, and Queens Colledg, and gave them*

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them an opportunity to live securely, and Educate others in their Principles. All the retribucion I could make to my generous Patron, for gratifying a poor Strippling, and permitting him to be Graceful, was, To promise, if ever I were able, to serve him effectually: Which I did (maugre the Power and Greatnes of the Presbyterians) in opposing Doctor J. W. who was then the Glory and Pride of that Party. Afterwards, to terrifie the Presbyterians, and make them more Complacential, I writ those so Invidious Queries; yet withhold, protested that they contain no Tenets of mine, (for I knew they were not defensible against the Learned and Invidious Episcoparians: Though they had force and address enough against the more Ignorant Presbyterians) but were writ to excuse those who had made those to be their Assertions, which were my Doubts. This I declared in the Preface: yet would not Ecebolius take notice thereof, to the end I might seem more Dotous, and that I might be upbraided with contradicting my self: Which I am very glad I doe: And that my Principles (if those be them) are as much changed as my Hair. In fine, (for I would not be tedious about these Impertinences) whatsoever I writ, was against the Presbyterian Clergy, the Presbyterian Universities, the Usurpations of Oliver and Richard. Against his Majesty, or his Father, or the Church of England, there is so little exprestly, that less could not be said by One of that side: And to have had any one so Active in those times, and to do what I did, 'tis not to be doubted but his Majesty would have dispensed with it, and acknowledg'd my Herbleableness. Could I but assure the Impudence of those Cromwellians and Renegadoes, and tell you Renegadoes, I did all this for to facilitate the Kings returne, how plausible would it seem? But though I knew the tendency thereof, I scorn to say This was my Designe: I say, I served my Patron therein; and bore no malice to the Royalists, who were then Ejected out of the Universities, & all Churches. Had I not contributed to those Imbroylments, perhaps things had not been in the same condition as they are in now; And Ecebolius (as well as others my most bitter Adversaries) had been Praying, and Preaching, as before: I prepared those Algerines to repent, and to Conforme; and you may, if you please, put the Latitudinarians (upon whom neither Religion, Morality, or Generosity have any Obligation) into a condition to betray You again. In the mean time, I beseech you, Generous Episcoparians, not to make your selves Instruments for their Rage, nor suffer them by your means to revenge upon me the Affronts done to the Presbyterians,

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ans, Oliver, and Richard Cromwell: Think not that they love you, or the Government: Nothing is dear to them but themselves: Nor are they swayed by any thing but Interest and Ambition: They attend to Opportunities, not Principles; and value not Right, but Fortune and Power. If they make it a Malignity of Temper in me, to have reviled (in these dayes) Doctor J. W. and Mr. R. B. If it be Hypocritie to defend the Monarchy, Religion, and Universities of this Nation: What Bottom do you stand on? Or, How do you expect to be serv'd? Mr. R. B. in his Saints everlasting Rest, (not to mention his Key for Catholicks) hath transferred Mr. Pym, and Hambden into Heaven: And Ecebolius tells you, that 'tis to be hoped, that on this side Tyburne there is not one whose Crimes have transcended mine: Thus 'tis made a more hanious Fault to have opposed the Right Presbyterians, Oliver, and Richard Cromwell, than to have acted in the First War, to have brought the late King to the Block, or to have cut off his Head. Sir H. V. was no Regicide: I was not concerned in all those times: I never made any Application or Poem to the Renowned Prince Oliver, nor insinuated my self into the Court of Hm, or his Son. When it pleased Almighty God to restore so happily his Majesty; I made early and voluntary Applications to the Bishop of Winton (that now is), for his Protection in my Retirement, assuring his Lordship of an inviolate Passive Obedience, which was all I could or would pay till the Covenant were renounced: He hath it under my Hand, and higher streins than these. I need not recite either the Kindnesses of that Reverend Prelate unto me, or his Majesties Favours at my going to Jamaica: 'Tis enough to say, that I was not deceiv'd in the Opinion I always had concerning the Generosity of the Royalists. When the Restoration of the Bishops, and of the Church of England had reviv'd me; at the first motion of the aforesaid Right Reverend Father in God, and at the first opportunity I ever had in my Life, I received Confirmation publickly at his Hands: And immediately took occasion to publish a Treatise of Bartholomæus Casaubon paraphrastically translated: And in the Dedication thereof, to that Loyal Gentleman Sir Ch. Littleton declare; "I have, at length, removed all the Umbrages I ever lay under: I have joyned my self to the Church of England; not only upon the account of it's being publickly imposed (which, in things Indifferent, is no small consideration: "as I learned from the Scottish Tranactions at Perth) but because

"it is the least defining, and consequently the most comprehensive,
 "and fitting to be National: Wherein any unprejudiced Person
 "(not resolved to mistake particular mens Actions or Opinions,
 "for Church-Principles and Errors) may observe all those Cir-
 "cunstances to continue in order to the promotion of Sober Piety,
 "which the Angels proclaimed at the Birth of the World's Savi-
 "our. viz. Glory to God in the highest, Peace on Earth, and
 "Good will towards men. In fine, it bears the Impress of what
 "is Ancient and Apostolick, as well as True: I always had a Re-
 "verence for the Primitive Christians, and it is with a Sincerity
 "not unbecoming them; that I thus declare my self. — Thus
 did He unrequested declare himself, most Generous and Candid
 Episcoparians, who pleaded for your Toleration, when you
 were in distress, and when his Adversaries were Praying, Preach-
 ing, and Acting against you, and Mr. R. B. writ his Key for
 Catholicks: Thus He declared three Years and more, before Ece-
 bolius published his Sermon upon the Wings Murder: Thus He de-
 clared, without any Hope of Advancement, or other ends, than to
 live as became a Peaceable and Quiet Subject, and Son of the
 Church. If after all this; if after the taking of the Oaths of
 Allegiance and Supremacy, and the having done all that the King
 and Church required, I have not yielded you sufficient satisfaction;
 pardon me, if I say I understand not what is necessary to the
 Civil, and Ecclesiastical Peace; and you do exceed the Prece-
 dents of any History, or any Policy, which I am acquainted
 with.

Have my Ad-
 versaries?
 hath Mr. R. B.
 declared thus
 much in Print
 yet?

I think this Discourse to be the most pertinent Answer I could
 give to all the railing of my Adversaries; without descending to
 Particulars, the Prosecution whereof (and even Repetition) would
 seem tedious, and in these times unseasonable. I now descend to o-
 ther Passages in Ecebolius. He said, my Head was Red-hot. By
 the difference of the Character, who would not imagine that he re-
 flected on me as Red-headed? He bath now varied the Letter,
 and saith Red hot; is not this the Sophistication of a gross Lye?
 He adds another: "If I had said, your Head was Red, I had
 "not been such a Lyer neither; it was a direct Carrot, last time I
 "saw it. — It never was of other Colour than of the pale Hungary
 Gold; and in time altered to a Light Brown: 'Twas such as the
 Ancients did ascribe to Apollo and Mercury (though very thin)
 and as the Wildest Nations have, and do desire to imitate by Arti-
 fice. — But his words were, his Head is Red-hot. Which is

F. 2. 3.

A Lye. And if it were not, so much to be said for that Colour, that I should not be ashamed thereof: Besides that some of the R. S. must suffer in the contumely, if it be one: Yet I neither take that, or the other of Bald-Pate, to carry any thing of Ignominy in them. He had also said, "In testimony of his great Love and Dévotion to the King, he thus subscribes the Title of his rare Book of Chocolata, by Henry Stubs, Physician for his Majestie in the land of Jamasca. Now (no doubt) he is Physician for his Majesty too in the Town of Warwick, and He intends to be Phyfician for his Majestie in the City of London." — I could not but look upon this as a Lying Insinuation, as if I had dared to Usurp that Character, which indeed his Majestie did Honour me with: And who would not, as the words import, conclude, that either I was not Physician for his Majestie at Jamaica, or no doubt am now Physician for his Majestie at Warwick? which for any man else to say were a Lyes; but in Ecebolius and Veruoso, 'tis only Raillery. Such Raillery it is when he speaks of my Spitting fire in a Feavour, and Reading by the Light of his Spittle. Whereas I neither had any Feavour these many Years, nor did ever such a Phenomenon befall me in one. Several Months after I had been sick of the Colick Bilious (which neither is a Feaver, nor was attended with any) upon the taking of a certain Course of Physick, and Indulging my self in the taking of Snuffe (I do not take it for a contumely, to be told of my Snuffe-Box) I observed that sometimes in the dark, as I blew my Nose, a stream of Light from my Eyes and Nostrils would issue out, and accompany the Pituita, even to the Ground; so that I could discover a Straw or Pinn. But what is all this to a Feaver-Fire, and Reading by it? If this be not a Lye, 'tis not more certain, that Truth is not to be spoken at all times, than that in this manner, it ought never to be spoke by a Divine; though Ecebolius may say any thing.

They have ran acked at him and D. M. are thus disguised: I imparted this odd Phenomenon de luce animalium to one of the R. S. desiring to know his judgment, If it might be the effect of the Physick, or such Snuffe as I then took. From him 'tis now transmitted to Ecebolius: As many others (whom I know) contributed their Symbols to this Farce, as well as that of D. M.s. Yet doth Ecebolius deny that any ever saw his Writings before they were Printed: "No man, except my Transcriber, ever saw my Book till it was Printed." — This is a notorious Lye (except He Equivocate) for one of his Neighbours saw the blotted Manuscript of Plus Ultra. And he sent it to Doctor More to peruse, before it went to the Press: The Doctor told

told me he altered nothing indeed; but remitted it with a Proverb (for Proverbs and Poetry, he is equal to Mr. Crosse) to this purpose, as if Ecebolius had over-acted in the Dispute. This, Ecebolius confessed to me at Bathe before Doctor F.C. and repeated the Adage, yet said, that he added nothing thereunto. Which I believe may be true: But yet hence it is evident, that he is a Lyer. Except the Virtuosi be Dæmoniacks, two must have seen his Prefatory Answer long before it was Printed, and they above one hundred miles from Bathe: For they repeated it (and I from them to him at Bathe) and said they had seen it: And Doctor M. communicates some Heads of it, which I believe he had not by Inspiration: I could name more; but this is enough to satisfie the world of the Integrity of our Vertuoso, and shew what Credit he deserves. Yet I must add, that the Renegado at Bathe doth transmit his Papers, and hold strickt Correspondence with H. O. a London-Renegado, and he conferrs with the rest of the Renegadoes. Ecebolius did aske Doctor G. of Bathe (as his intimate Friend told me) to help him with an account of the New Inventions in Anatomy: Upon the Publication of Plus ultra, there was some mis-understanding about it: The Canse, I know. — About Mr. Crosse, that He hired me, the Gazetteer of Chugh doth thus write. “The Reverend Disputer after this cateched and courted him highly, treated him at Bathe, and entertained him divers times with dear well-come at his House, so that at last He was fatten'd. I was at his House once, and no more: My welcome was as great as he could at that time express: But not so as to be reported dear unto him. I have elsewhere published the Truth, nor doth Ecebolius disprove it; but thus Apologizeth for himself. — “I insinuated what In his Letter I thought, and had heard in other termes, and if I Lyed, in P. 29. “Thinking, and Hearing, and giving some Hints of what was reported, and was likely enough to be believed. This is all he replies for words so Positive and Peremptory: ‘Tis no Insinuation, but Assertion: No mention occurs that He was told so, or Imagined so. This Defence recalls to my mind some Passages when Doctor F. C. did bring us two to an Interview: I complained to him of a multitude of Lyes which he writ, and was going to Print: and desired he would not trouble the world with such Fopperies; for though they would give me Advantages over him, yet I had not Leisure to pursue them. I told him that He had written a Letter (of which I had seen the Original) to Doctor J. Gardiner, how I went from Bristol to Chue in the Company of a Quaker, and that Mr. Crosse and I fell out there, and had gone together by the Ears.

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(or to this effect) had not the Quaker parted us: That afterwards, the Quaker and I came to Bristol, and there quarrelled, and abused each other. This he Comically related to his Friend; But this Relation differs much from that of my Dear welcome at Chue. I told

He is a very hopeful Intelligent young Gentleman, and now a Scholar at Cambridge. Father was one: That I was willing to embrace his Overture of guiding me to Chue, being as great a Stranger to the Way, as unto him. That I was not ashamed to be in his Company, who was so well known to the Lord Brouncker, and the Bishop of Ch. In summ, I said I was confident that He was of the R. S. and in their Catalogue: He denied that, and upon the wager of a Guinny, the History was consulted: But it appeared not that He was there (though I was sure He had been at the R. S.) and I Paped it. This hath given Ecebolius so much master of Triumph, whereas it was not a tryal of any Citation in the Book against Hm. I convinced him before Doctor F. C. that we had no Quarrel at Chue, nor did I return to Bristol, but left Mr. M. S. to return alone, and departed straight to Bathe, and Warwick. He then replied, that He was told so. Just so D. M. having Printed, that no Civil woman would make use of me at Warwick; Defended himself, That he found now that All his Intelligence was not Gospel. Dost any man imagine it possible that Civil Society can subsist, if

Prefat. Answ. Such Practices as these be tolerated? Thus Ecebolius tells us of p. 107^o an Oxford Doctor, that should say to this purpose: "That "Mr. Stubs is so great a —— that if he tell you that He was "at such a Gentlemans Table, where this, or that Discourse hap- "pened; you are not to believe as much, as that he knows the Gentleman, or ever saw him. — Whosoever that Doctor were, and if ever there were so mistaken a Person, It did not become Ece- bolius to publish it, who had seen me more than one Summer at Bathe, attending on the Healths of as Honourable Patients as any that Doctor ever was I think in company with. But not to insist on any more Lyes (which I am averse from pursuing, to save my self and Reader some trouble, and the Clergy that disgrace, lest it should be said of one of their number, He was the most Impudent Lyer in the World). I do hereby demand Ecebolius for my Wassal and Victim. By his own Promise he is obliged to ren- der himself, and if there be any Generosity in my Adverlaries, they will see that He performe it. After he had asked his half-Brother if he were a Thief, and brought his Certificate, and the Attestation of Jo. a Court to prove the Truth of his Relation of the Con- ference with Mr. Crosse (which yet I am so far from crediting, that

that I will prove out of Ecebolius himself that they attest a Lye,
and that it was not exactly and sincerely such as it is reported.) He Presat. Answ.
adds : " Thus I have proved my Relation for Mr. Stubb's Satis. p. 161.

" faction : And there is no other matter I have related concerning
either of them, but I shall make it good, when-ever I am called
upon to do it : Yea, if they please. I am ready to lay the issue of all
here. If I cannot prove every matter of Fact, that I have print-
ed about them ; I shall humbly lay my Neck at their Feet : And
if on the other hand, either of these Adversaries can prove one of
those reproachful things they have alledged against me, I'll be
their Wasse and their Whisme. — In his Letter now He
writes. " I never said any thing of you, that I will not justifie
to a Little. — I writ unto him upon the coming forth of the
Prefatory Answer, and having shewed him more Lyes, and
Specimina of his Ignorance than he now takes notice of; I told him
to this purpose ; ' Twas in vain to pester the world with Books of
Rayling, that I demanded him for my Wasse, and would con-
vince him Formally where, and when he please, either before
indifferent Persons at Bath, or before the R. S. and my Lord
Bronncker : And that, if He declined this, I would proceed to Post
him at London, Oxford, Cambridg, Bath, and Bristol. All the
Answer I received is this in Print, which is as pertinent to what I
demanded, as all He else writes is to what I object. I do here pub-
licly make the same overture : I will openly in any convenient
place, and before Intelligent Judges, prove him a Lyer, and so Ig-
norant and Illiterate a Fellow, that He is not fit to come into any
Learned company, or to open his Mouth amongst them. I have
already evinced his Ignorance : And all the Impertinence I am
guilty of is this ; that my Antitheses are Logically and Directly op-
posite to his. I will give an Instance or two, by which the Reader
may judge.

p. 274

Mr. Glanvill. Plus ultra. P. 7.

" The unfruitfulness of those Methods of Science, which in so
many Centuries, never brought the World so much Practical Be-
neficial Knowledge, as would help towards the Cure of a Cut-Fin-
ger, is a palpable Argument, that they were Fundamental Mi-
stakes, and the way was not right.

The

The Antithesis of H.S.

" I suppose that the instance against the Ancient Methods of Science, since it is restrained to their Utility to cure a Cut-finger, is particularly directed to Physick: For, against any other Method of Science the Objection were ridiculous: And in opposition to this Assertion, I do say, I have proved, and will do it to any man, that

" The Ancient Methods of Science have brought Physick to a great perfection, have explicated so the Causes of Diseases, and their Cures, and do so enable us to pass a further judgment upon new Plants, and other Discoveries in the Materia Medica, as well as new Diseases, besides that they direct us upon their Principles how to Compound Medicaments according to all Intentions, that neither were they heretofore, nor can any understanding Person (who acts on their Grounds) be at a loss for the Cure of a Cut-Finger.

Mr. Glanvill's Epicrisis.

Prefat. Answ. " Do I speak of the Methods of Physick, Chirurgery, or any Practical Art? If I had done so Master Stubbs had had reason.
p. 111 " But it was nothing thus, I had not to do with any thing of that Nature, but was discoursing of the Infertility of the way of Noticing and Dispute, concerning which I affirmed, that it produced no Practical useful Knowledge.— And unless he can prove that they did it by the direct Help and conduct of the Notional Disputing Physiology, he will not Sacrifice me to Publick Obligation here, nor say any thing in which I am concerned at all. " Who ever denied that Diseases were cured by these Physicians, using Reason, Experience, and General Rules? But when do you prove that the Doctrine of the First Matter, and Forms, do directly, and of it self, lead to any Discovery by which they were assisted in Cures? This I told you was my meaning in these Words, which you force to a sense which best befits your malicious purpose.

Ibid p. 112.

In his Letter, p. 12. " I did not expect that a man should pretend to Common Reason,

The Dialysis by H. S.

" I did not expect that a man should pretend to Common Reason, and

and yet by alteration of the terms to vary the Subject of the dispute. At first your Assertion was concerning all the Ancient Methods of Science, of which even the Empirical Physicians did follow one ; The Methodists, or Corpuscularian Physicians another ; and the Dogmatists or Hippocratick-Galenical Physicians, a third ; You now recede from hence, and do not only exclude the two former from the Controversie, but the latter. You grant that Diseases and Cut-Fingers were cured by them, they using (or rather proceeding upon) Reason, Experience, and certain General Rules : But you say first, that you are not to be understood concerning Physick, or Chyrurgery or any Practical Art ? Truly, had not you limited your Discourse to Physick, all the mixt Mathematicks had been concerned in the Quarrel : But I pray learn Logick, especially the Doctrine of Proposition, that you may know how the Predicate and Subject are modelled therein. I appeal to any intelligent University-man, whether I could understand you otherwise then about Practical knowledge, Physick, and Chyrurgery, since you demand a Practical effect, and that to be in Physick or Chyrurgery. The course you now take is,

Delphinum sylvis appingere, fluctibus apros.

You would have me prove that those things may produce Practical Knowledge, which consists in meer Speculation, and terminate there. If you ever were so good a Disputant as you pretend to have been, and mispent so much time in your first studies at Oxford (which I believe you did not) you could not be unacquainted with the Distinctions between Speculative and Practical Sciences and Arts : And you would no more have expected from the first the Effects of the latter ; than you (but alasse ! you have no insight in

Plus ultra.
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into the Mathematicks, as Doctor H. M. confessed to me lately; and the learned Prelate hath avowed to twenty persons; he to whom you sent your Book, and who sent you an obliging Letter of thanks, not for your performances, but your Present) then you would expect from pure Mathematicks the productions of the mixt. Keep your self to this Position that you were not to be understood of any particular Art, Physick, or Chyrurgery, and I will only say, you are Hair-brain'd, or a MAD-MAN; as you call me. But you again change the state of the Question; for you demand I should prove that the Ancients did their Cures by the direct Help and Conduct of the Notional Disputing Physiolog; and without I prove this, I do nothing. If the Physicians do their practical Science are not spoken of nor intended I am not concerned in the Quarrel: However to gratifie you with some Reply; I tell you, that if you mean by Physiolog, that part of Natural Phylosophy which is accommodated unto, and is the basis of the Dogmatical Physicians (in Italy and Spain especially) I do say that by the direct help and conduct thereof, they do their Cures; but I must tell you, that in a practical Science, or Art, 'tis not necessary that every part and parcel thereof be Practical, as you might have learned at Oxford: Neither is it any more necessary that to compleat Physick, every point be determined, and not disputed; then it is to Mathematicks that it be decided, whether there be any such thing in nature as a Mathematical Point, or Surfa-ces; or whether the Circle can be squared? Though it hath been disputed, and is still, how Vision is performed, and where? Let do men See, and the Masters of Opticks do Wonders. But you again change the state of the Question, whilst you demand I should prove that the Doctrine of the first Matter and Forms, did, directly, and of it self lead to any dis-covery.

covery, by which they were assisted in their Cures. I am hereby obliged to prove that a part shall do as much as the whole : That one Round of a Ladder shall mount a Man to the World in the Moon : Now that the hopes of flying thither are disappointed, I am to prove that the Ancient Methods of Science did enable to cure a cut-Finger : The Doctrine of the first Matter and Forms is neither a Method of Science, nor Science, though a part of Physiolog. Who is now the impertinent ? Where lies the charge of impudence.

Thus this Illiterate Ecebolius doth serve me in every Case, that he seems to reply unto almost : the Citation of Mr. Boyle is true (bating the error of the Pres^t, whereupon he triumphs, I appointed it to be Printed by the Book he followed : And I derive no advantage from the Variation. For doth Mr. B. say the Spots were not there, but that during many Months, they appeared much seldomer, than it seems they did before. Is it a true Maxim in Natural Philosophy, which in Law sometimes passeth currently ? Idem est non apparet & non esse. The Latine Edition of Mr. B. which was approved by him, and which I followed at first, says. Quæ [maculae] per menses aliquot continuo tanto quam antea (ut videtur) rarius apparuerent. He is P. 145. Edit. thus cautious I believe, because any man that hath in- Amstelodam, quired into the Cœlestia Phænomena, must know that 1667 tis Recorded how two or more using Telescopes at the same time, have related different Observations : At the same time that Galilæo and Scheiner made their Observations of those Spots, other Learned Inquisitive men could not see them, or not in the same places : For ought I can guess, at the same time that Mr. R.B. could not see them the diligent Zucchius might see them with his Telescopes, which seem to be the most accurate

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of all, because the most constant ; nor doth it appear that Mr. R. B. by reason of the Weakness of his Eyes, or any in England understood their use so well as He.

'Tis his assertion, " Astero primo, satis constare con-
sensum apparentiarum, sive in locis proxime, sive ea-
dem die, sive pluribus longissime distitis ; sive con-

Zuccius phi-
los. Opt. part
1. c. 18. Sect.
viii. p. 232.

" tinenter diebus a peritis Observatoribus adno-
tentur. It is not to be doubted but that skilful Artists
understand the use and placing of Telescopes of all
sorts : 'Tis not to be doubted, but that their Telescopes
were as true when employed on terrene Objects at a
due distance, with a proportionate Medium, and
convenient apperture, as the Figure and confir-
mation of them did admit of, and was requisite to
verifie their Observations on Earth: But even on Earth
there would be no certainty of the exactness of their
Discoveries, could we not by near approach and sensi-
ble Examination convince our selves further. Be-

Ricciol. Al-
magist. nov.
l. 10 Sect. 6.
p. 660. Prob.
50. See Mr.
Glanvill
if you can
find that in
the Index.

sides even in this Air there happens such secret Altera-
tions, that Kircher could on some dayes discover Ætna
from the Isle of Malta, which on the next day when the
Sky seemed much more clear, he could not see. Now if
we apply all this to the Cœlestial Phænomena observed
by Telescopes, concerning the distance whereof, the
Medium and the Nature of the Objects and their Co-
lours (whether Emphatical or Real) we can make no
sensible and near Inquiries : How far are we short of
all that Ecebolius doth prate of ? What consequence
is there in his Argument, that because they do not
deceive us on Earth, therefore they will not in the
Skie ? In fine, I have demonstrated ; That Telescopes
are not so certain as our Eyes : That Telescopes do
vary their Objects in some things, besides their
proportions ; nor are their Informations the same in
all things, but the mentioned Difference. Which is
contradictory to what this Ignoramus saith ; and what-
ever

ever Mr. Crosse said, (of which I am uncertain) 'tis a shame that this Arrogant should Talk or Write thus : and they may blush who were present at , and had a share in, and witnessed unto so ridiculous a piece of Conversation. I am to learn a new Logick, if my Antitheses be not contradictory to his Tenets : and if they be, let him confess they are pertinent, and prove them to be false : Which the Virtuoso saith, that He hath done : Since all he hath said, or is likely to say for ever, is already answered in his former account of my Spirits, and Performances.

In the Pre-
face to his
Lever.

Now, Gentlemen, 'tis clear that the R. S. found out some of the Five Instruments so famed for advancing Knowledge. Now 'tis evident that the R. S. did first propose and practise the Transfusion of Blood : Who can any longer deny, but that the Romans held it Unlawful to look on the Entrails ? And that Chymistry was not in use with Aristotle and his Sectators ? Let it pass that Tertullian severely censured an inquisitive Physician of his time for this practise [of Anatomy] and that one of the Popes (he takes it to be Boniface VIII.) threatened to Excommunicate those that should do any thing of this then abominable nature. All these things (and many Falsities more of which his Plus ultra yields me an Additional supply) are answered (and that pertinently, and as becomes a Virtuoso) by the Demonstration of the Malignity of my Cyprian, and Hypocrisie. I shewed how Eccebolius complained that all his first Studies at Oxford did not qualify him for the World of Action and Business : I do here solemnly avow, that they have Ruined me : For I thereby am come to so gross Ignorance, as not to know what is pertinent, or what 'tis to oppose, and Answer : and for this Discovery, I am redevable to those generous men that have conversed with real Nature, undisguised with

Art and Notion: I desise Aristotle, and renounce the Documents of his Rhetorick, wherein he told me that all the Bitterness and Exaggerations, whatever tended to raise Indignation or other passions in the Judges, were Impertinencies to the Cause in debate and that the use of them to Judges was as ridiculous, as if one would try to make the Rule crooked, the which He would make use of. I will set down the Passage, to demonstrate to the World what a fool he was, and what a crowde of silly Fellowes were the Areopagites of old; and I will set it down in Greek, though I know Eccebolius can do little more than read it (and therefore corrected the Erratum of Doctor More's Letter by committing two New ones: As also mistook the Text and title of his Sermon, about Reason and Religion) the Passage is this. Νῦν μὲν δὲ τὰς σύγχρονας τῆς ἀρχαντικότητας, ὅμηρος πολεμίζειν εἴπεις μέσος, αἱ γὰρ μάρτιοι, ἡ πτηνή τοῦ μαρτυροῦ Ταῦ δὲ ἄλλα, προδόται οἱ βοῦς μὲν μὴ τοῦ εὐαγγελισμάτου, ἀλλὰ λέγονται, ὃ περὶ δὲν εὑμα τῆς πόντους. Πηδεῖ δὲ τὸ ζῆτον τοῦ περιγραμματοῦ πλαστὸν γαρ, καὶ ἔπειτα, καὶ ὥρην, καὶ τὰ πεπάντα ποστὰ τῆς Δύναμος ἢ ποσοὶ τοῦ περιγραμματοῦ δέοντα, αἵτιναι τοσοὶ δὲ πλεονάσται, εἰ τοπικὸς πόντος ἢ τῆς χρόνους, καθάπερ ἐν ιδίαις τοῖς δὲ τοῖς πλεονάσταις, καὶ μάλιστα ἐν τῆς εὐονομίας, ἦτις αἱ τίχειαι δὲν λέγονται, ἀποτελοῦσσαι γαρ, διὸ μὲν διεργάτης τῶν τούτων προφενεῖ, διὸ δὲ, καὶ χρήστης, καὶ κολόντας ἐξαρτοῦ τοῦ περιγραμματοῦ λέγονται, καθάπερ γέ τοι φρεστὸς τόπος γριλούτης, καὶ γαρ δὲ διεργάτης πλαστός, εἰς ὥρην περιγραμματος, ἢ φύσιος, ἢ τίχειος, δημοσίου γαρ καὶ τοῦ εἰς, καὶ μέλλει χρηστὸς γενέσθαι, τόπος ποιητὴς γριλούτης. Ἐπειδὲ φανερόν, ὅτι τοῦ μηδαμοφιλεστέρους οὐδὲν ζῆτο τὸ δέκατον τὸ πράγμα, διὸ οὐδὲν δὲ τοῦ οὗτον, ἢ γίγνεται ἢ τοῦ γένεται. Away with those Generable Seats: Confound that Notional Learning: Those Logical tricks about shuffling and ordering Propositions and Forms of Syllogisme, the distinctions of Secundum quid and Sympliciter, the prædications of Genus and Species, &c. are justly rejected, and railed upon by this Virtuoso: 'Tis they have betrayed me to this Baffle: 'Tis this bath made me turn over Indexes (and read Books, that I might know what to look for

in the Index of such and such an Author, and supply
the defects and want of an Index) were the Mecha-
nical Education received, and the Jesuits Morals
substituted instead of Aristotle, and Thomas Aqui-
nas (perhaps this was intended in the puny Society con-
trived at Bath and Bristol, where new Hypotheses of
Morality were to be proposed) then Lying (if service-
able) were as good as Truth, and Poor Robbins
Almanack, Montelion, or Glanvill, as good Authors
as Ricciolus, and Zucchius: The authority of Hadri-
anus Junius should be baffled by those who had not op-
portunity (or were negligent) to enquire exactly into
the Original of Printing: And let the States of Zea-
land inquire, and judge never so uprightly concerning
matter of Fact (done in their own Country,) and let
Borellus publish it in Print; yet shall Metius have the
glory of the first Invention, and Galileo be he that first
applied it to the Stars. But upon second Thoughts,
I believe that the World of business and Action is
not such as Eccebolius talketh of; that the Mechanical
Education is the most Extravagant Folly imaginable:
That to Preserve our old Religion, is absolute-
ly necessary that we retain our Old Leatning: that
there is a greater value to be placed on Controversial
Divines, then our Virtuoso do allow of in their Letter
against me; and perhaps one Jewel, Lawde, Andrews,
Davent. Whitaker, Chillingworth, Scaliger, Grotius,
Selden, Causabon, or Salmasius may ere long be more
serviceable unto Monarchy than a Fleet of Ships,
Thirty thousand Horse and Foot, or Three
hundred Thousand Virtuosi: I do not reckon my
Adversaries amongst the Military strength of the Nation,
because they have abandoned their Standard: The
Standard of English Eloquence: and when the
people have a little more observed them, the Works
which they have atchieved in Six Years above all that e-

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ver the Aristotelians ever effected, will only conduce to the Improvements of Baillery; We shall perceive that we have been out of the Way all this while; that the interests of a Lineal and hereditary Monarchy are different from those of any Usurper; and if my Olivarian Adversaries may understand what Arts are subservient to the advancing, or continuing of a Cromwell, a Regicide: I am content to dissent once more from them in behalf of the present Monarchy, the Church of England, the Universities, and my own Faculty: And I think it is no ill Prayer for me to use, nor no argument of Faction and disloyalty to wish, that God would endew many others with such a malignity of Temper, and such Hypocrisie as I am now possessed with.

They hundred Four Books of mine in Michelmas Term from being Licens'd, though they contain'd nothing repugnant to the Monarchy, Church, or Good Manners

I shall not dismiss Eccebolius nor the Quarrel thus: I desire that all ingenious Persons would solicit for me to have the Liberty of the Press; and impetrue the Virtuosi, that Eccebolius may render himself my Vassal, and do his Homage and Swear Fealty: if he do so. Sir H. Spelman will tell him his Style is a Lewd Fellow, and a Villain: if he do not make good his word. He will deserve those Elogies upon another account. I will not make a Victim of him; the Christian Law hath put an end to all Sacrifices: And that which is Levitical, doth exclude Unclean Beasts from the number of Temple Offerings: I am not so angry as to turn Paynill, that I may be revenged on the R---- otherwise, since Doggs and Asses were of old Sacrificed to Mars, and Black Sheep to Pluto; the World could not yield a more Agreeable Victim for either. He shall live for me (which is more then my Adversaries desire I should do) except the Devil claim his due, and then I ought to be just, if Old Proverbs may pass current amongst New Phylosophers: They are more of kin, and a greater is the af-

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affinity of the Name, than Stubb and Stubbs get to shew my Pedigree, he tells me in the preface to the Preparatory Answer, of the Stubb's that were hanged for Treason: 'tis a Thin kindred that yields neither Whore nor Rogue: There are more of the Glanvills besides him that disgrace the Family: However, He should not have changed the Terms again, and given me Allegations of one Francis Stubbs that was Executed, and one John Stubbs, whom Cambden and Marten admire for that Bravery which he shewed at the Cutting off of his Hand: He took off his Hatt immediately thereupon with the remaining hand, and cryed God bless the Queen, nor did He suffer for Treason, his Book contained not so much of Reproaches against the Queen, as Reasons against her Marriage with a French Papist. Now let us observe from hence the Logick of our Virtuoso: How doth it appear that the Stubb's were hanged for Treason in former Reigns: Here is but one so Executed, and he not of my Name; and I am too little acquainted with my Pedigree to claim Kindred with either of the Persons alledged.

As to the Universities, although it matter not what Ecebolius saith in behalf of them, because he doth not understand What he commends; yet ought he to be blamed for detracting from them, lest it turn to the universal Detriment of the Monarchy and Religion. The passage I cited, is too odious to be thus excused: And even now he rejects their Logick, Natural Philosophy and Metaphysicks; each whereof he is unacquainted with. As much as he pretends to have studied Aristotle (whom I am sure he cannot Construe) and the Peripatetick Physiology, yet did he not know that Aristotle held the Gravity of the Ayr, and was therein followed by the Avincenists & Averroists, whose Authority alone was principally received in the Arabian Schools,

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Schools, and generally amongst the Western Christians, till the Laterane Council put a check to the Averroists. As for Logick, he knows not what it is, either in the Practise or Notion; without Good skill therein, 'tis impossible for a man to benefit himself considerably in the Studies which our Virtuoso doth allow of: or without Metaphysicks to defend the Christian Religion and Protestancy, or explain the 39. Articles, Athanasian, and Nicene Creeds. But He spoke in my hearing with much contempt of the Thirty Nine Articles, saying, Three of them were calvinistical: And as to the Athanasian Creed, He doth never read it, and usually declaims against it; and told Doctor J. M. that he would Burn before he would read it. Thus he (not to speak of his curtailing the Common Prayer, and dis-use of the surplice lest the pulling it off should Discompose his Periwigg) observes his Subscriptions and the Laws of the Land! As to what he cites out of his Letter against Aristotle, had he proceeded the words would have been these: 'I blame not therefor the use of Aristotle in the Universities among the Iunior students, though I cannot approv the streightness and sloath of Elder Dijudicants, from whom a more generous temper might be expected, than to sit down in a contented despair of any further Progress into Science, than hath been made by their Idolized Sophy and depriving themselves and all this World of their Liberty in Phylosophy a Sacramental adherence to an Heathen Authority. And I confess 'twas this, Pedantry, and Boyishness of humour that drew from me those Reflections I directed against Aristotle — This too must pass as allowable; must it? Pedantry and Boyishness of Humour is fixed upon the Governours of the Universities, how Sage and Reverend soever they be, and what rank soever they hold in Church and State;

state; The man of Stagiaæ is said to be their Idolized Sophy, and they charged to deprive themselves and all this World of their Liberty in Philosophy by a Sacramental adherence to an Heathen Authority. I will not exaggerate this passage, but leave it to the consideration of all Intelligent men, whether this be not a Libelling of the Universities, and the King their Founder, and from whose Authority their Statutes have force. Is it fit that such an Ignorant, Inconsiderate Fellow as Ecebolius should thus animadver upon the Demeanour of those who are so much his Superiors, who act according to their Statutes, and who understand the danger of any Innovation in Learning under an Hereditary Monarchy, as well as they do the Civil Consequences it woul'd draw upon the Church: They are sensible of the present damage which it hath done; they know the Character of us Islanders too well, to comply with it: they know it is not requisite to the Being, or Well-Being of an Ancient Government to introduce such a charge; and that 'tis absolutely necessary that this do oppose it. Besides the Fatal presency which Ancient History, & even the Records of both Universities, to suggest in reference to Changes of lesser moment, they know that the Papists do allow this Philosophical Liberty to some of their Members rather to distract us, than that they approve it; and that their Church hath a power to remedy any inconvenience, which we have not: That in their Colledges they reverence Aristotle as much as we: That the University of Lovaine hath censured Cartesian Philosophy; and that the Belgick Universities have suppressed it publicly. I shall relate the degree of Utrecht, because it containis the Motives they went upon, and the prejudice they found to arise from the New Philosophy. "Ultrajecturiæ Academiæ, judicium hoc est, Professores Acad. Ultraij reiçere Novam istam

* See the Judgment and Reasons of the Lovain Doctors, in the end of the second Edition of Plempli's Fundament. Medicap 3:5 &c.
Jac du bois contra Wittichem, in pres.

" Philosophiam; primo quia veteri Philosophiæ, quam
 " Accademiæ toto orbem terrarum hactenus optimo con-
 " filio docuere, aduersatur, ejusq; fundamenta sub-
 " vertit. Deinde quia juventutem a vetere & sana
 Philosophia aversit, impediq; quo minus ad culmen
 " eruditiois provochatur, eo quod istius p̄sumptiæ
 " Philosophie administriculo technologemata in authorum
 libris, Professorumq; lectionibus ac disputationibus usi-
 " tas, percipere nequit. Possumus quod ex eadem con-
 " trariae falsæ & absurdæ Opiniones partim conse-
 " quuntur partim ab improvida juventute deduci pos-
 " sunt, pugnantes cum cæteris disciplinis ac facultari-
 " bus, atq; insprimis cum Orthodoxa Theologia. —

To what an height of Impudence and Arrogance it
 hath transported Ecebolius, is manifest: Nor are his
 Abettors less moderate: The History contains the like
 Suggestions as I have shewed: And the Anonymous
 Epistoler doth fly as high: 'Tis strange a Doctor of
 Divinity should write so; and more, that he should
 thus defend the passage I animadverted upon, in a
 Manuscript not yet published, but communicated to
 others; the reply to what I say (p. 42. and 29.) how he
 makes the Universities Lands alienable, is: They most
 " were designed for another kind of Worship than what
 " is now in use: And they may be changed in one
 " as well as in another Particular for the better.
 " But I speak not against useful and modest disputa-
 " tions, but against Barbarous and conceited
 Terms. — Reader, The Subject of the Que-
 stion betwixt him and me, is Controversial Divini-
 ty; not the Barbarous and conceited Terms there-
 in. Who can Dispute with such men as these?

It may not be impertinent to this subject for me to
 take notice of a passage of Mr J. E. concerning the Uni-
 versities, which though it be more favourable to Theo-
 logy than this last Author would allow of, yet did it not
 become

become Him to write, it being very derogatory to the Universities.—“That might redeem the World from the Insolency of so many Errors as we find by daily experience will not abide the Test, and yet retain their Tyranny; and that by the credit only of, and addresses of those many Fencing-Schooles which have been built (not to name them Colledges) and endowed in all our Universities: I speak not here of those reverend and renowned Societies which converse with Theology, cultivate the Laws Municipal or forreign; but I deplore with just indignation, the supine neglect of the Other, amongst such numbers as are set apart for empty and less fruitful Speculations.-----These are his words in the Dedication of Nadius's Instructions concerning a Library (out of which Dedication I find T. S. to have stolen his Dedication to the King, only he multipliyed the Errors of his Original) out of whih tis manifest, that Mr. J. E. did not understand the Constitution of our Universities; for we have no such Fencing-Schools (not to name them Colledges) built and endow'd to any such purpose as he speaks of: nor any numbers set apart for less fruitful and empty speculations, then the Virtuosi do pursue. Tis true, there is a Professour of Natural Philosophy in Oxford; and that the Scholars in the Course of their Studies, are obliged to employ a part of their time in Logick, Physicks, and Metaphysicks: And the reason, is because that the interest of our Monarchy is an Interest of Religion, and the support of the Religion established by Law is complicated with, and depends upon those Studies: Tis no less then impossible for any man to understand or manage the controversies with the Papists (and our Church is framed principally in opposition to them; as appears by our Articles, and Homilies: and the Monarchy subsists only by that opposition) without a deep knowledge of those Sciences: As any man must know who hath inspected noe more than

than the Controversy of the Eucharist; wherein the Doctrine of substance, & accidents, of Quantity distinct from Matter of Ubication, &c. is so requisite to be understood, that the protestants sustain the dispute without them: For if we change our Notions in Natural Philosophy, we then differ in the principals of discourse; and where men differ therein, 'tis impossible for them to proceed. In all discourse there must be some common suppositions and definitions admitted of; and every man that is convinced, is convinced by somewhat which he already holds: By the change agitated, and now pursued, we make our selves incapable of convincing a papist: and considering the prejudices of long Education, and the Authority of the Catholick Church, we must render our selves in their judgment as Perfect Fooles; and not be able to proceed, *is in this case all one as to be baffled.* Besides, I cannot comprehend, and I do inculcate it to our Church and States-men, That no new discovery in Natural Philosophy can countervail that damage which the publick will receive by this change of Philosophical principles: for besides what we shall suffer in the present management of disputes, and those dangers which usually accompany all Changes (which are such as no wise man would introduce them, in a settled Government, though he comply therewith when they are unavoidable) we shall so disparage all the Reverend Fathers & Writers of our Church, and of precedent Ages, that their Authority and Repute will cease and what they have written become universally contemptible, when their Philosophical Notions shall be despised, and each similitude, or illustration seem ridiculous to every boy. 'Tis most certain, that we know the inconveniencies of our present condition, and know we can substist and flou-

flourish under them : but we do not know the inconveniences we shall run into , nor any besiting remedy for them.

I did in a private Letter upbraid Ecebolius with ~~it~~--
in omitting a passage of Dr. H. Moor's Letter, wherein he
declared, that He payed not any of those weekly Con-
tributions, no nor so much as Admission-money ; as was
usual. I could not believe the Dr. so Disingenuous as to
deny it, or equivocate, as he seemed to do in the Case : but
he himself told me what was omitted, he was troubled at it, and protested upon the Faith of a Christian, that
'was done without his Knowledge: and that He im-
powered Ecebolius to print the whole Letter. Let the P. 33.
World now judge of the demeanor of Ecebolius, imagine
how He serves me, who thus abused his best Friend.
He replies for himself, that he omitted that Meaning,
because it seemed to be ridiculous. But he might have
known, that I reckoned upon all those Catalogues of
their Fellows, as false, where such were accounted on, as
neither hold Correspondence with the rest, nor Pay See my Pre-
the usual Contributions. All the mistake of mine face against
T.S.
was that I supposed him to have payed Admission-
money ; and so to have been heretofore of the R. S.
Whereas He never payed so much as that ; and the
Finesse is more manifest, that they pick up a company
of men, and desire they would augment the Specious-
ness of their Catalogues, and ducquoy others ; and
they will ask no more of them. The excuse of Ecebolius
is the more unpardonable, because at our Interview
at Bathe, I told him this very thing before Doctor
F. C.

In his Lett
p. 12.

I forgot to take notice of one passage in Ecebolius
abut Flavius Goia, that He invented the Compass.

He

P. 80.
He acknowledgeth that it is a mistake: but 'tis an error of the Preis: it should have been Flavius, or Goia. He is confident it was so in his Copy: and that he was sensible of the mistake committed about it elsewhere. But I am confident the mistake was not in the Printer, but Author: for in his Plus ultra, He doth make Flavius Goia of Amalphis to be the discoverer of the Compass: whereas all the best Writers say, the inventor was either Flavius of Amalfi; or Johannes Goia (or Gira) of Helsi.

F I N I S.

